

Microsoft Office® 4.3 and SmartSuite® 3.0
A Comparative Overview
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Microsoft Confidential

Microsoft Office 4.3 and Lotus SmartSuite 3.0
A Comparative Overview

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OFFICE 4.3 VS. SMARTSUITE 3.0 COMPARISON	1
Executive summary.....	1
The competitive landscape	1
Suite contents	1
Release history.....	2
Windows suite market share	2
Macintosh suite market share.....	3
The evolution of SmartSuite's positioning.....	5
Application setup.....	6
Investment in code base.....	7
Application structure	7
What's new in SmartSuite 3.0?	8
New features.....	8
Key marketing messages of SmartSuite 3.0	10
Working Together (integration).....	10
Notes Ready™ (workgroup).....	10
Ease of use.....	13
Consistency	15
Consistent menus.....	15
Consistent dialogs.....	17
Performance	20
Implications for future versions of Microsoft Office	20
WORD 6.0 VS. AMI PRO 3.1 COMPARISON	21
What's new in Ami Pro 3.1?	21
New features.....	21
Ease of use.....	21
Workgroup.....	21
Key marketing messages of Ami Pro 3.1.....	22
Lotus is setting the standard for today's word processors.....	22
Ami Pro is the best designed word processor for day-to-day word processing needs.....	22
Feature comparison by marketing message.....	22
Implications for future versions of Word.....	26
EXCEL 5.0C VS. 123 RELEASE 5.0 COMPARISON.....	27
What's new in 123 Release 5.0?	27
New features.....	27
Integration	27
Ease of use.....	28
Workgroup.....	30
Key marketing messages of 123 Release 5.0	31
Maximum Productivity, Minimum Effort.....	31
The Cleanest, Simplest User Interface.....	32
"Notes-ready": Extends the Desktop to the Workgroup	32
Approach Integration.....	32

Working Together.....	33
Feature comparison by marketing message.....	33
Implications for future versions of Microsoft Excel.....	36
User interface.....	36
Workgroup computing	36
Spreadsheet publishing	36
ACCESS 2.0 VS. LOTUS APPROACH 3.0 COMPARISON.....	38
What's new in Approach 3.0?	38
New Features.....	38
Ease of use.....	38
Integration	40
Analysis and horsepower.....	40
Implications for future versions of Access.....	41
POWERPOINT 4.0 VS. FREELANCE 2.1 COMPARISON.....	42
What's new in Freelance 2.1?	42
New Features.....	42
Ease of use.....	42
Interoperability	42
Workgroup.....	42
Key marketing messages of Freelance Graphics 2.1	43
Feature comparison by marketing message.....	44
Implications for future versions of PowerPoint.....	45
SCHEDULE+ 1.0 VS. ORGANIZER 2.0 COMPARISON.....	46
What's new in Organizer 2.0?	46
Key marketing messages of Organizer 2.0	46
Feature comparison by marketing message.....	47
Implications for future versions of Office	48

Office 4.3 vs. SmartSuite 3.0 Comparison

This document represents an analysis of Lotus SmartSuite 3.0 and Microsoft Office Professional 4.3c. The intended audience is anyone interested in the details of the latest release, version 3.0, of SmartSuite. The analysis assumes the reader is already familiar with SmartSuite 2.1 so the main focus is on the new features of SmartSuite 3.0. Primarily, this document explores the comparative technologies, marketing messages, and synergy between the new features and components of SmartSuite 3.0.

Executive summary

Lotus released SmartSuite 3.0 as a tactical response to the success of Microsoft Office 4.2. The release required minimal development resources and includes no architectural changes. The timing of the release indicates that Microsoft and Lotus are on staggered 12/24 month development cycles so we should expect a major release of SmartSuite in 1995. Lotus promised customers difficult to implement technologies (LotusScript, OLE 2.0 or OpenDoc, and an object model) in the next version of SmartSuite so we expect them to ship in late 1995. Based on our evaluation, Office applications are on track to maintain their "best of breed" status in 1995.

The competitive landscape

Lotus Development Corporation shipped SmartSuite 3.0 for Windows during the summer of 1994. The new version of SmartSuite offers only incremental changes to each of the applications and is a tactical response to the successful release of Office Professional 4.3. A majority of the development effort in SmartSuite 3.0 went into improving each application's integration story and making each application "Lotus Notes Ready". These tactical enhancements were designed to reinforce Lotus's "Working Together" and Lotus Notes integration messages.

Suite contents

Instead of segmenting SmartSuite into standard and professional editions, Lotus decided to offer only one version of SmartSuite, targeting the Office Professional market. The contents, suggested retail, and street prices of both application suites are almost identical. Note, SmartSuite 3.0 doesn't include the Notes nor the cc:Mail client or server software. The following table lists the relative contents and pricing of each application suite.

SmartSuite 3.0	Software Category	Office 4.2 Standard	Office 4.3 Professional	Office 4.3 Pro CD-ROM
Lotus 1-2-3 Release 5	Spreadsheet	Excel 5.0	Excel 5.0	Excel 5.0
Ami Pro 3.1	Word processor	Word 6.0	Word 6.0	Word 6.0
Approach for Windows 3.0	End-user relational database		Access 2.0	Access 2.0
Freelance Graphics 2.1	Presentation graphics	PowerPoint 4.0	PowerPoint 4.0	PowerPoint 4.0
Organizer for Windows 1.1	Personal information manager			
SmartCenter 1.0	Application task switcher	MS Office Manager	MS Office Manager	MS Office Manager
	Integrated desktop reference			Bookshelf
Working Together Bonus Pack	Productivity tools			Office Assistant
ScreenCam 1.1	Audio/visual "screen movies"			
	Suggested retail price	\$750	\$899	\$899
	Estimated street price	\$450	\$550	\$550
	Estimated street upgrade price	\$270	\$350	\$350

Table 1. Application suite content and price comparison.

Lotus claims that SmartSuite is "the only complete solution for Windows desktops"¹ and that "this is the ultimate integration of your most important desktop tools."² The "complete solution" positioning capitalizes on the lack of

¹ SmartSuite 3.0 box tag line.

a personal information manager in Office. However, the PC press and corporate customers haven't identified a lack of a personal information manager as a key reason for choosing SmartSuite over Office so this tactic has not been very effective for Lotus. The "integration" message has been more effective because Lotus spent a large portion of their development budget to support it.

Release history

The release history of Microsoft and Lotus indicates that both vendors are on staggered 12/24 month development cycles. The following table shows how Lotus and Microsoft release a minor upgrade every year with a major upgrade coming every other year.

Release Date	1993	6/93	9/93	10/93	4/94	8/94	9/94
Office Version	3.0c			4.0	4.3 Pro		Mac
Comments	Excel 4.0 Word 2.0 PowerPoint 3.0 Mail			Excel 5.0 Word 6.0 PowerPoint 4.0 Mail Access 1.0 (Pro)	Added Access 2.0		Excel 5.0 Word 6.0 PowerPoint 4.0 Mail
SmartSuite Version		2.0	2.1			3.0	
Comments		1-2-3 Rel 4.0 Ans Pro 3.01 Freelance 2.01 Organizer 1.1 cc:Mail client	Added Approach 2.1 Removed cc:Mail client			1-2-3 Rel 5.0 Ans Pro 3.1 Approach 3.0 Freelance 2.1 Organizer 1.1	

Table 2. History of release cycles for SmartSuite and Microsoft Office.

Having a market driven staggered release cycle gives each company a 12 month window of opportunity in which they can peddle a major release against their competitor's minor release. It is in the major release time frame when each vendor has made significant inroads into their competitor's market share. In the fall of 1994, Microsoft Office garnishes a considerable functionality lead and retains the "best of breed" status for application suites. Lotus will ship a major upgrade of SmartSuite in the summer of 1995 while Microsoft will offer only a minor upgrade. Lotus could have a more compelling offering and Microsoft might be forced into marketing an inferior product. With Microsoft's current development plans and market share this worse case scenario is unlikely to happen but we should not count out Lotus, yet. In conclusion, Microsoft enjoys a considerable lead in the application suite market but we shouldn't become complacent because Lotus will have major upgrade in 95 and an opportunity to attack Microsoft's market share.

Windows suite market share

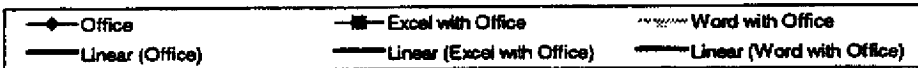
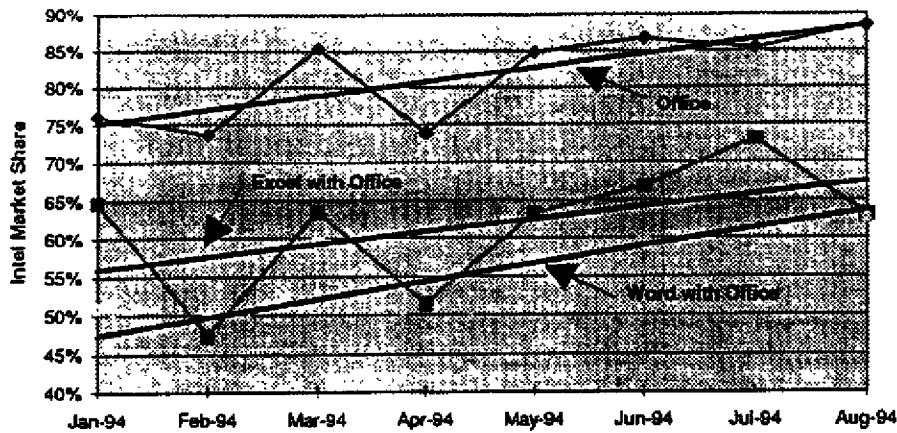
Office 4.3 consistently wins industry recognition. 1994 awards include: *InfoWorld* Buyer's Assurance Seal, *PCWorld* World Class Award for Best Application Suite, *NTSL/Software Digest Ratings Report* highest overall score, *PC/Computing* highest overall score, and *PC Week Labs* highest overall score. The industry perception is that Microsoft Office contains five full-featured "best of breed" products while Lotus SmartSuite contains six full-featured products that work well with Lotus Notes. In reality, SmartSuite's support of Lotus Notes is only marginally better than Office.

In changing the consumer buying behavior from individual application to suite purchases, Microsoft dramatically increased its overall revenue share over Lotus. According to August domestic reseller/distributor sales figures, sales of Microsoft Office account for 88% of the suite market with Word and Excel accounting for 63% of their respective application markets. Over the last 6 months, individual application sales have slightly receded from all time highs while Office sales continue to grow an average of 112% per month.³ The good news is that Microsoft is growing the business application market while at the same time stealing market share from Lotus. The following table and charts describe our success in more detail.

¹ Lotus launch advertisement campaign. *InfoWorld*, September 26, 1994.

² Based on IMS Fast Track information for U.S. sales through the distributor/reseller channel which is 85% of total application sales.

Microsoft Office Market Share



Microsoft Share	Jan-94	Feb-94	Mar-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94
Suite	76%	74%	85%	74%	85%	87%	85%	88%
SS with suite	65%	47%	63%	51%	63%	67%	73%	63%
WP with suite	51%	43%	61%	47%	54%	60%	65%	63%

Table 3. Market share data based on IMS Fact Track information. Reflects DOS and Win US sales made through 17 distributors/resellers.

The success of Microsoft Office, Word, and Excel can be attributed to several factors. First, Microsoft made a sizable development investment in major upgrades of all Office components. Second, the brand marketing of Office has been extremely successful with brand awareness reaching all time highs. Third, Microsoft utilized usability research and activity based planning to create powerful, easy to use features with a consistent look and feel across a family of products. Fourth, Microsoft application include IntelliSense™ technology which makes routine tasks automatic and complex tasks easy. Fifth, Microsoft released common code versions of Office on the most popular platforms: Windows, Windows NT, Macintosh, and Power Macintosh. Sixth, Microsoft invested in key industry standard technologies that allowed users to easily share data between applications: OLE 2.0, ODBC (Open Database Connectivity). Finally, Microsoft Office became a development platform with a rich library of reusable objects and Visual Basic for Applications that armies of solution builders and MIS corporate developers will easily customize into powerful, automated work environments. In response to customer requests, Microsoft added Lotus Notes/FX 1.1 support, a Lotus data sharing technology, to interim releases of Word and Excel. In summary, Office 4.3 was so successful because it delivered the key product attributes that customers desire—ease of use, consistency and integration, and solutions to their business problems.

Macintosh suite market share

According to the June 1994, Software Publishing Association (SPA) data, Mac Office enjoys 100% market share of the suite market. Unfortunately, this news isn't as good as it sounds. Office's biggest competitor is ClarisWorks, an integrated software package from Claris Corporation, a subsidiary of Apple Computers, Inc. ClarisWorks retails for \$199 (\$299 SRP) and contains word processing, spreadsheet, charting, database, and graphics tools designed for small businesses and the home. The success of Office on Windows doesn't translate to the Mac because Mac Office is competing against an integrated product rather than another suite. Individual applications sales are more important on the Mac than on Windows: Excel 99% share and Word 88% share. In looking at software category segmentation on the Mac, integrated products sales are growing at the expense of spreadsheet

and word processor sales. The general trend for Mac software sales is a growth in home education sales and a decline business software sales. The bottom line is that Mac Office is well positioned for a declining business.

Software Category	Mac	Win
Home Education	100.32%	642.85%
Integrated	85.37%	154.20%
Professional Drawing/Painting	30.68%	93.71%
Relational Databases	24.58%	916.82%
Recreation	17.01%	35.21%
Presentation Graphics	12.42%	123.31%
Electronic mail	0.50%	679.11%
Spreadsheets	0.00%	0.00%
Flat File Databases	-8.42%	438.20%
Word Processors	10.26%	72.50%

Table 4. Macintosh and Windows software category growth.

One cause of the decline in Mac business application sales is the demanding hardware requirements of Mac Office 4.2 (released in the fall of 1994). The chart on the right illustrates that Mac Office 4.2 is way ahead of the hardware curve in 1994 and won't catch up until after 1996.

Apple sells a majority of their systems into homes while the Office positioning targets small, medium, and large businesses with only slight mention of the home. A trend analysis of Mac sales indicates that Apple will continue to penetrate the home market at the expense of business customers.

The misaligned positioning of Mac Office 4.2 begs an important question: Is Office the right product for a majority of Mac users? The success of ClarisWorks reflects the appropriateness of an integrated product for a majority of Mac users and the high system requirements of Office. ClarisWorks will continue to eat away at Office sales unless we reposition Mac Office 4.2 as being the "right" choice for home users or we develop and market a more appropriate product for Mac users. Reversing the erosion of Mac Office sales involves leveraging the synergy involved in using the same software at home and work and lowering the memory requirements of Mac Office 4.2.

In conclusion, the Mac business market in which Mac Office does well is shrinking while the home market in which ClarisWorks does well is growing. The primary competitor for Mac Office is not Lotus nor Novell but Claris. In the future, we need to either alter our Mac Office positioning to take advantage of the home segment growth on the Mac or shift our development efforts from Mac Office to a ClarisWorks competitor, namely our integrated product MacWorks.

Macintosh Application Category	Microsoft Worldwide Dollar Share
Office	100%
Excel	99%
Word	86%

Table 4. Software Publishing Association June, 1994 data.

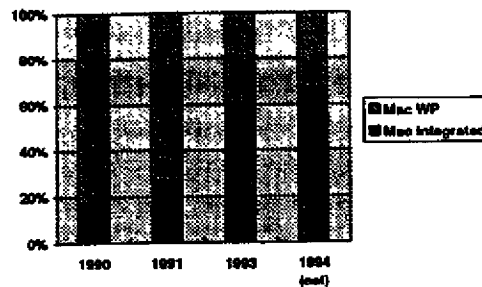


Figure 1. Category growth of Macintosh word processing versus integrated.

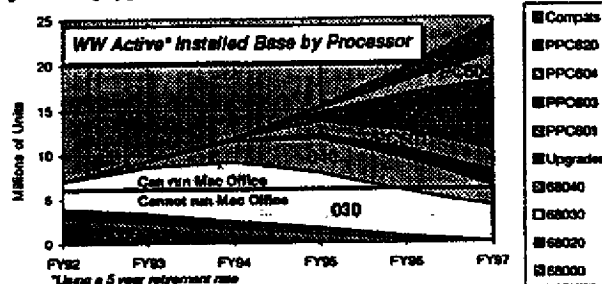


Figure 2. Macintosh installed base over time. Source: DonP's Mac market analysis.

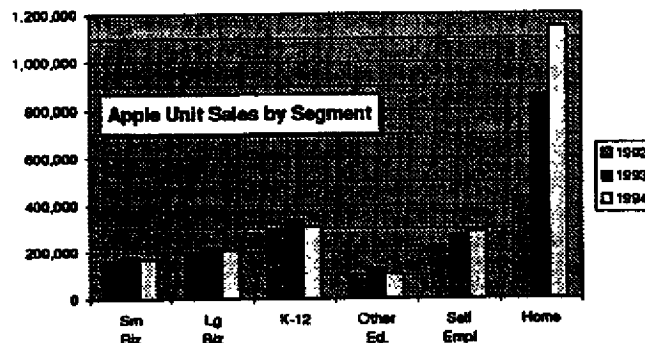


Figure 3. Apple unit sales by segment. Source: DonP's Mac market analysis.

The evolution of SmartSuite's positioning

The successful PC press evaluations of Microsoft Office applications forced Lotus to alter their positioning from "best of breed" applications to applications that "work together" well and easily take advantage of Lotus Notes. The change in positioning exploits the success and mindshare of Notes and the integration development work done in SmartSuite 3.0. In summary, the battle ground has changed from a feature war to which suite's applications work best together.

Application	SmartSuite 3.0 Positioning	SmartSuite 2.1 Positioning	Changes in Positioning
SmartSuite	The complete desktop solution that maximizes your productivity and minimizes your effort.	Working alone, each of our Windows applications is best of breed. Imagine what happens when they're working together.	Lotus moved from "best of breed" marketing to focus on ease of use, working together, and workgroup enabled applications.
Lotus 1-2-3	Everything you need to make your everyday spreadsheet tasks faster to complete.	Lotus 1-2-3 for Windows is redefining spreadsheet productivity.	The new positioning focuses on completing everyday tasks quickly and easily rather than on making users more productive. The new emphasis is a response to our previous positioning: Microsoft Product X makes everyday tasks easier.
Ami Pro	The best/fastest word processor for 1-2-3 users and the most powerful for individuals, workgroups, and mobile users.	Ami Pro for Windows is the best word processor for Windows.	Lotus changed the focus of Ami Pro's positioning from "best Windows" to "best for 1-2-3 users". Utilizing the performance and size complaints against Word 6.0, Lotus added "fastest" to Ami Pro's positioning.
Approach	The relational database that makes managing and reporting on data as easy as 1-2-3.		A majority of the new functionality in SmartSuite 3.0 exists in the 1-2-3 integration work done in Approach. To highlight this work, Lotus combined the "no programming needed" message with an integration with 1-2-3 message.
Freelance Graphics	Freelance Graphics for Windows is the fastest, simplest way to a great presentation.	Freelance Graphics for Windows is the fastest, easiest way to a great presentation.	The key messages for Freelance involve easy of use and speed in building high quality presentations. For SmartSuite 3.0, Lotus added better integration with other Lotus apps to the Freelance positioning.
Organizer	The award winning personal information manager.	Organizer is the computerized way to keep tabs on things.	The increased awareness of the personal information manager category allowed Lotus to stake out a best of breed status with Organizer.

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Microsoft Office 4.3 and Lotus SmartSuite 3.0
 A Comparative Overview

10/18/94
 Page 5

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Application setup

The application setup process helps develop the user's first impression of an application suite.⁴ Unfortunately, the increased memory and hard disks requirements of application suites have given users slow, memory hoarding applications with little residual hard disk space. Performance complaints and problems with installation account for 35.7% of Microsoft's product support burden.⁵ Most of product support calls involve Windows configuration optimizations needed to bring applications up to an acceptable level of performance. All of the application suite vendors are way ahead of the memory curve as the data below demonstrates.

Application Suite	Memory Requirements	
	Minimum	Suggested
Lotus SmartSuite 3.0	4 MB	6 MB
Microsoft Office Pro 4.3	6 MB	8 MB

Table 5. Memory requirements for application suites.

Although Microsoft Office requires 8 megabytes of memory today, future versions of Office will not increase this requirement so that we can catch up with the hardware curve.

Both Lotus and Microsoft offer a single configurable installation process that supports local hard disk, workstation, and server installation. One nice feature of Lotus's installation process is that the user can specify a directory for shared components. This allows a network administrator to easily place shared components on a network server. Each vendor presents different installation options despite the fact that 74% of Office users perform a complete installation.⁶ The following tables compare the relative disk space requirements by installation option.

Microsoft Office Pro 4.3 Applications	Disk Space Requirements		
	Minimal	Typical	Complete
Microsoft Excel for Windows	9.6 MB	15.9 MB	17.4 MB
Microsoft Word for Windows	7.8	16.6	17.5
Microsoft PowerPoint for Windows	13.2	19.8	20.6
Microsoft Access for Windows	6.9	18.9	19.7
Microsoft Office Manager	0	1.2	1.2
Shared Applications	0	.8	22.9
Converters, Filters, and Data Access	0	Included in App Totals	10.0
Tools	0	2.7	4.3
Total Disk Space	37.5 MB	75.0 MB	100.0 MB
Lotus SmartSuite 3.0 Applications			
1-2-3 for Windows	11.0 MB		23.0 MB
Ami Pro for Windows	4.0		16.5
Freelance Graphics for Windows	6.4		23.0
Approach for Windows	8.5		19.0
Organizer for Windows	1.5		2.3
SmartCenter for Windows	.8		8.0
ScreenCam for Windows	1.0		1.0

Table 6. Disk space requirements for application suites by installation option.

⁴ About 81% of Office users set up themselves.

⁵ Percentage for Word for Windows 6.0 support from Worldwide Product Issues database maintained by PSS.

⁶ May 1994 Office usage study installation results.

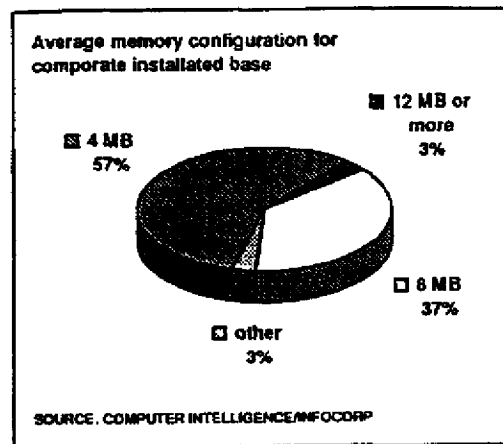


Figure 4. Average memory configuration for corporate users.

Investment in code base

Lotus invested very little in their code base during their last release cycle. The following table shows that most the development effort went into improving their integration scenarios and consistency.

SmartSuite Application	Old Version	New Version	Development Cost ⁷
1-2-3 for Windows	4.0	5.0	No architectural changes. 3-5 developers. A majority of the development effort went into the 1-2-3 and Approach integration.
Approach for Windows	2.1	3.0	Minor architectural changes. 5-8 developers. Most of the work for the 1-2-3/Approach integration was in Approach.
Ami Pro for Windows	3.0	3.1	No architectural changes. 1 developer. 2 macro writers. Only a few cosmetic feature changes.
Freelance Graphics	2.0	2.1	No architectural changes. 1 developer. 2 conversion developers. 2 SmartMaster developers.
Organizer for Windows	1.1	1.13	No architectural changes. 3 developers. The majority of the development effort went into supporting Notes group scheduling and multi-user access.

Table 7. Estimated development cost of SmartSuite 3.0.

Like the Office 95 release, Lotus used less than 25% of their development budget to implement cheap integration features. No major architectural changes were made to any of the SmartSuite 3.0 applications' code base. Given the limited scope of new features in SmartSuite 3.0, the summer of 1995 release of SmartSuite should offer significant new features and enhancements.

Releasing a major version of SmartSuite in 1995 will be a difficult task for Lotus. In addition to supporting Windows 95 and making their applications 32 bit, Lotus plans to implement several expensive technologies: OLE 2.0 Visual Editing, LotusScript, and an object model. Using our release history as a metric, I feel that Lotus will have a hard time pulling everything together to ship in 1995. Press and beta program leaks in the next six months will give us a good indication on when they plan to deliver these technologies.

Application structure⁸

SmartSuite shows a wide variety of implementation techniques and tools.⁹ SmartSuite was written in both C and C++ using the Borland compiler and Microsoft C 7.0 and 8.0. Localization issues are handled through international DLL's and by recompiling their executables. The general trend between releases of SmartSuite has been to move more and more code into shared DLL's.

For the most part, Lotus uses Windows controls, dialog boxes, and string resources. Custom controls are implemented as subclassed Windows controls. To provide the 3-D look, Lotus subclasses the standard Windows controls. SmartIcons toolbars are implemented as a single HWND (window), but each icon is an individual GDI object. This results in a very space inefficient toolbar implementation given Windows GDI heap limitations. Lotus does a good job in sharing code between applications. The LOTUSAPP directory contains a number of shared components: DataLens, dialog editor, Lotus Media Manager, spelling checker, SmartIcon management DLL, and mail services. The shared user interface functions (SmartIcons, live status bar, and extended Windows dialogs) are implemented in three shared DLL's. In conclusion, Microsoft shares a few more components than Lotus but not enough to make it a major selling point for Office.

⁷ This analysis is based on my experience as a Word developer. I estimated how many Lotus developers I would allocate to implement the features delivered in each application. So, the numbers are a bit arbitrary but they give a rough estimate as to how many development resources were spent on each release.

⁸ Analysis paraphrased from SteveSi's BIG SmartSuite 2.0 analysis memo.

⁹ This analysis is based on using Spy (Window classes), ExamHex (DLL entry points and module comments), AppStudio (resource structure), and HeapWalker (resource usage).

What's new in SmartSuite 3.0?

New features

Lotus Development highlights the following "suite" features in their fall 1994 SmartSuite 3.0 launch ad campaign:

TIGHTER CROSS APPLICATION INTEGRATION

SmartSuite applications work together to provide features that complement each other.¹⁰

	Positives	Drawbacks
I-2-3/Approach	See description in Excel section, page 27.	
Collect & Copy	<ul style="list-style-type: none"> Collect several spreadsheet ranges and copy them into a single table. 	<ul style="list-style-type: none"> Only implemented in I-2-3.

SCREENCAM™

ScreenCam records audio, video, and screen images for public video monitoring and computer-based training.

	Positives	Drawbacks
	<ul style="list-style-type: none"> Excellent training tool. Encapsulates sound, voice, and screen changes in a single file. 	

SMARTCENTER™

SmartCenter, the headquarters for all SmartSuite applications.

	Positives	Drawbacks
Application task switcher	<ul style="list-style-type: none"> Title bar mode can be dragged and repositioned on the screen easily. 	<ul style="list-style-type: none"> Screen locations are not remembered between sessions.
OLE drag-and-drop	<ul style="list-style-type: none"> Lets you drag and drop data from the source application to target application on the SmartCenter icon palette and drop it into the application after SmartCenter starts it. 	<ul style="list-style-type: none"> Only Lotus I-2-3 and Approach support his feature.

BUBBLE HELP

Bubble help describes available functions.

	Positives	Drawbacks
	<ul style="list-style-type: none"> Great ease of use feature. 	<ul style="list-style-type: none"> Lotus cloned Apple's balloon help implementation which is more obtrusive and annoying than ToolTips.

SUITEANSWERS™

SuiteAnswers provides answers to frequently asked questions.

	Positives	Drawbacks
Cross-application help	<ul style="list-style-type: none"> Task oriented help. 	<ul style="list-style-type: none"> Few topics are covered.

¹⁰ Key integration scenarios are described in the application sections. I've included the I-2-3/Approach integration here because it's a key piece of evidence in Lotus's working together message.

CONFIGURABLE SINGLE INSTALL

SmartSuite uses a configurable installation program to install all or portions of the Lotus application suite.

	Positives	Drawbacks
File server installation	<ul style="list-style-type: none">• Separate directory for shared components that can be placed in a network location.	<ul style="list-style-type: none">• Little administrative help.• No Resource Kit to help administer a network installation.
Customizable setup	<ul style="list-style-type: none">• Catch-up feature	

LOTUS NOTES READY™

All SmartSuite applications are optimized to work with Lotus Notes. This includes supporting Notes/FX 1.1 and OLE 1.0 editing capabilities.

	Positives	Drawbacks
	<ul style="list-style-type: none">• Platform for building custom applications that easily exchange data.• Collaborative documents.• Version tracking and replication.• Rich views of data in separate documents and applications.	<ul style="list-style-type: none">• Requires Notes client and server which are not included in the box.• Notes databases are difficult to setup and administer across a workgroup.

Key marketing messages of SmartSuite 3.0

Lotus's advertising campaign highlights how well their applications work together and how well they work with Lotus Notes. Recently, Lotus made performance an issue since Office requires an additional 2 megabytes of memory for acceptable performance.

Working Together (integration)

Summary "No other suite product on the market today provides our level of application integration."¹¹ Lotus defines integration as cross-application tasks rather than how easy it is to share all types of data between applications. Lotus spent a majority of their development budget providing solutions for key user scenarios.

Implications for Office We need to do more cheap integration features like ReportIt, PresentIt, etc. in Office 95. Microsoft is very good at providing the tools for cross-application scenarios but very bad at creating in-the-box cross-application solutions. In Office 95, we should really try to leverage the synergy between our applications. Finally, customers understand "Working Together" but don't understand "OfficeLinks" because of its focus on the enabling technologies rather than the results. We should rethink the "OfficeLinks" concept and come up with something better.

Note: Working together scenarios are described in each of the application sections.

Notes Ready™ (workgroup)

Summary "It's the best suite for this new way of working [workgroup] because it's the only suite built to optimize Lotus Notes"¹² Lotus is using the mindshare and perceived success of Lotus Notes as a differentiation point with Office. Lotus is marketing Lotus integration like Microsoft markets OLE 2.0 integration. Both companies are using a technology they pioneered as a selling point for their suite.

Implications for Office Evangelize to the press and influential end users that Office and SmartSuite's implementation of Notes/FX are identical. The only advantage for Lotus is that they ship a document sharing template that is optimized for their applications.

Lotus has announced SmartSuite 3.0, which is marketed as "Notes Ready" and will attempt to tie SmartSuite to Notes' momentum. This makes sense as a Lotus strategy since Notes support is SmartSuite's only perceived advantage over Office and Notes has press, VAR, and industry momentum as the leading groupware product. This document compares SmartSuite and Office support for Notes and proposes a strategy for handling Lotus' claims.

True comparison yields equivalent support for Notes in SmartSuite and Office¹³

In a fair (non-marketing) and Notes-centric comparison of SmartSuite and Office, SmartSuite has a slight ease of use advantage over Office, but nothing that SmartSuite can't be done from Office. However, this advantage is very minor in the larger context of which application suite is the better to use for all tasks (not just integrating with Notes), and is small even when compared to the level of support that Microsoft products have for Notes in general.

How Office should respond

The marketing response to Lotus claims of superior support for Notes should focus on two points:

OFFICE SUPPORTS THE MOST IMPORTANT NOTES FEATURES

With Office, users can send mail in the Notes mail system, create and embed OLE objects in Notes, link OLE objects to Notes documents with Notes/FX, import and export data between Excel and Notes, import Word documents into Notes, and view or import Notes data into Access or Excel (MS Query). Which is everything that SmartSuite can do and much more than most Notes users have ever considered.

¹¹ Lotus SmartSuite 3.0 launch brochure.

¹² Lotus SmartSuite 3.0 launch brochure.

¹³ Borrowed from MikeRia's analysis of SmartSuite 3.0 and Lotus Notes.

FOCUS ON THE WORK, NOT THE COMMUTE

Since Office does everything that SmartSuite does with Notes, Lotus is marketing how easy SmartSuite is to use with Notes as a differentiating factor. This may seem sensible, but an analogous scenario is you focusing on your commuting time rather than what you do for 8 hours at the office. In other words, yes, SmartSuite knocks 5 minutes off a user's commuting time, but then the user has to use an inferior analysis or data management tool in SmartSuite for whatever it is they are trying to accomplish. This approach returns the focus of the evaluation to a comparison of Office and SmartSuite based on application characteristics and quality (best of breed, integration, consistency, and programmability) instead of the Notes integration level.

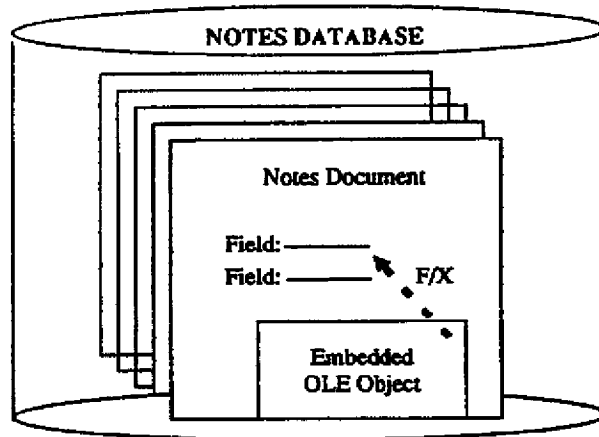
Technology Comparison

This section reviews Notes/FX, the leading Notes-integration feature, and then covers in painful detail every Notes integration feature in SmartSuite and Notes.

Notes/FX

Notes is Lotus' dedicated workgroup product. It uses a lightweight database model to store information created or added by users in a database of *documents*. Notes databases are stored on central Notes servers (thus there is Notes client software for the desktop and Notes server software for the server). Each distinct piece of information in the document is stored in a field (like "Name", "Date", "Comments" and so forth) so that users can search and access documents using *views* which are essentially queries on the fields. Furthermore, like Microsoft, Notes relies on a bridge between its SmartSuite editors and the Notes documents. The name of this bridge between application documents and Notes documents is Notes/FX (short for application Field eXchange). The "fields" nomenclature is Notes-centric since the data which is exchanged between the OLE objects and the host Notes documents would more appropriately be called "properties" because it originates or is passed from an OLE object. Fields, however, are where the data is passed to in Notes, so that is what Lotus called the feature.

One other comment is that the support Lotus (and soon Microsoft) will have in applications for Notes/FX only works with Notes. There is no such thing as a generic Notes/FX property viewer which can read this information out of Notes documents. Furthermore, OLE properties in Office 95 have several technical advantages over Notes/FX (users can read OLE properties without having both the application and the document open, for example).



NOTE:

This section was taken from MarkK's 95VISION.DOC, which has complete explanations of the features and technologies associated with workgroup computing.

What can both products do?

By installing Office or SmartSuite on a PC with Notes installed, a user can (convention is ss=spreadsheet, wp = word processing, pg=presentation graphics, db = database):

- Send send/route mail from applications on the Notes mail system (VIM)
- Embed application objects (ss, wp, pg) in Notes
- Embed OLE rich text format (RTF) objects in Notes (the contents of an RTF object can be indexed by the Notes content indexing feature)

- Import a ss range (rows and columns) into a set of Notes documents
- Export a Notes view to ss document which can be analyzed in the ss
- Import a ss range into a Notes RTF field
- Import a wp document into a Notes RTF field

- Use Notes/FX standard property support in wd, ss, pg
- Use Notes/FX custom property support in wd, ss (bookmarks and named ranges)
- Use ODBC support from db/ss to access Notes data using the Notes ODBC filter

- Obtain wp, ss, pg templates for Notes (in SS box, on CIS for Office)
- Add a suite-friendly icon set to Notes (in SS box, on CIS for Office)

What does SS do on top of this?

SmartSuite goes very slightly beyond Office in feature support, but most of the difference between the two products is ease of use. For functionality:

- Notes/FX support in Approach (embed Approach objects in Notes) -
- Notes/FX "custom" property support in Freelance
- Features are built into apps which leverage Notes (Version Manager)

For ease of use:

- Notes templates for SS applications are in the product box
- Notes/FX 1.1 (a standard interface to /FX - no change to functionality)
- Easier access to Notes data from Approach and 123 (the user does not have to go through the ODBC driver manager dialog to set up a data source)
- Write access to Notes data from Approach and 123 (the ODBC driver only provides read capabilities for MS - they have added to it for write capabilities)

Note that none of the ease of use features are not available from Office - the Office user simply has to go to CompuServe for the templates, has a less standard UI to Notes/FX, and has to use the ODBC driver manager tool to set up a Notes data source. The last characteristic, write access to Notes, can be worked around in Access or VB with a single line of code, or, since Access and VB support custom controls (which ViP does not), the developer could get third party custom controls or DLLs to get write capabilities.

Analysis of ODBC data access to Notes

Lotus claims that Approach, 123, and ViP can "access Notes data directly" in their marketing materials for SmartSuite - there are two points to make regarding this claim.

"SEAMLESS" MEANS EASIER, BUT STILL ODBC

What Lotus means by "access Notes data directly" is that Lotus does not require the user to use the ODBC data source manager. In other words, to access Notes data, the user chooses "Notes data" from a drop down list of database types in a File Open dialog for 123 or Approach (or chooses Notes as a property on the data object in ViP). The dialog then returns a list of the views or forms in the Notes .NSF file that the user selected. This seamless integration probably does not require the Notes API - it just searches for .NSF files and then uses ODBC

to return the list of views and forms. Also, Notes security still works in this scenario - if you try to access a remote Notes .NSF file, you get a password dialog in the process of attaching to it.

Once the user is connected to a Notes database via ODBC, they can access either Notes forms or Notes views. The difference is that Notes views can't be changed or modified by any of the products (views can't be changed in SQL or other database products either) but the data in Notes forms can be modified. And while forms can be modified, they are not particularly fast. In fact, both the ViP documentation and the ODBC help file suggest against using Notes forms for manipulating data for performance reasons. So the user can update or add records in Notes forms from these products and Approach does make it very easy to do but at the same time Lotus recommends against it.

What this means is that the recommended use of Notes data access is for importing or attaching to Notes views (non-updatable) via ODBC (what they are using, despite their claims of Notes API support) from within Approach, 123, and ViP for data analysis, joins, or presentations.

Last comment on their use of ODBC in Lotus applications. I spoke with a reviewer of ViP for some time and he kept talking about how Notes data access through the API was so much better/faster than through ODBC. Make no mistake that Approach and 123 are using ODBC (if you don't believe it, remove the Notes ODBC driver or ODBC.DLL and you can't get to Notes). We should test performance times, but I think we will find little difference.

And Microsoft Office can use ODBC

With the exception of the "seamless" access to Notes data that Lotus applications provide (no data source manager required), Microsoft products provide the same Notes data access capabilities because VB, Access and Excel support ODBC. So from any of these products you simply create a data source that points to Notes and pick from the resulting list of Notes views and Notes forms in the data source. And, as above, we should expect little change in performance (since both are using ODBC) between Lotus and MS products.

Of course, since VB is a better development tool (extensible via custom controls, better debugger and editor, OLE Automation), Access is more powerful for both end users and programmers (has a powerful macro language, better wizards), and Excel is a superior product (pivot tables, list features, and OLE 2 support) you can actually do much MORE with your Notes data in MS products than in Lotus products.

This support for Notes data extends to creating applications in VB which add or modify Notes records or using Access to create Notes data entry forms. For VB there are several third party tools which access the Notes API that provide updating capabilities and for Access it is possible to work around the lack of Notes record indexes to create Notes front ends. As with Lotus, this is not recommended for performance reasons with Notes data, but it is certainly possible.

Ease of use

<i>Summary</i>	Lotus defines ease of use in terms of cross-application integration—the ability to seamlessly manipulate and transfer information between applications. Microsoft defines ease of use in terms of making routine tasks quick and easy to accomplish, i.e. IntelliSense™ technology.
<i>Implications for Office</i>	Office should continue to use instrumented versions, usability labs, and contextual inquiry data gathering techniques to better understand how customers use our products. The IntelliSense™ message plays well and we should make sure Office 95 features increase its momentum.

The following table compares ease of use and intelligence features in Microsoft Office and SmartSuite¹⁴.

¹⁴ A more detailed analysis of the ease of use features in SmartSuite can be found in the evaluation guide:
\\f01infobase\products\desktop\office4.win\compndeforlot.doc

Ease of Use and Intelligence	Microsoft Office version 4.0	Lotus SmartSuite 3.0
Intelligent charting	Microsoft Excel Drag and Plot will intelligently modify a chart simply by allowing the user to drag and drop new data onto an existing chart.	Lotus 1-2-3 does not offer similar functionality for updating charts. To include additional data in a chart, the user must click on the chart, select the type of range to be updated, select the new range, and then hit enter.
Analyzing database information using your spreadsheet	Microsoft Excel offers several easy ways to analyze database information using IntelliSense™. You can manage lists in fewer steps with improved sorting and filtering using the Microsoft Excel AutoFilter. It's easy to generate many levels of reporting detail using the AutoSubtotal. Create a dynamic model with ease using PivotTable Wizard, which allows you to create different views of multi-dimensional data by just dragging and dropping your data fields.	Lotus 1-2-3 does not offer comparable database capabilities. Improv, a separately purchased program, does provide multi-dimensional modeling capabilities. However, Improv is not integrated with 1-2-3 and requires considerable modeling expertise, unlike Microsoft Excel PivotTables, which uses a Wizard to guide the user through the modeling process.
Helping users learn to work more productively	Microsoft Excel, Word, and PowerPoint all offer helpful tips on how to increase your productivity, with the new Tip of the Day feature. Microsoft Excel also offers a Tip Wizard which uses IntelliSense™ to watch the user work and "lights up" when it has a suggestion about how they could accomplish the same tasks more efficiently. Microsoft Excel, Word, and PowerPoint also offer ToolTips, which let the user easily see what each toolbar button does.	Lotus SmartSuite does not offer "active" features like Tip of the Day and Tip Wizard that help users discover new features. A user must seek training or consult the manual to discover new features which they are not currently using. Most Lotus programs provide descriptions of SmartIcons in the status bar at the top or bottom of the screen. The user must ask for this help by using the right-mouse button, in contrast to ToolTips, which is automatic unless the user deactivates it.
Assistance for completing complex tasks.	Microsoft Excel, Word, PowerPoint, and Microsoft Access use IntelliSense™ Technology to bring you over 50 Wizards and over 1000 CueCards. Wizards guide users through otherwise complex, multi-step processes. The Wizard asks a series of questions to help the user make decisions and then automatically produces the desired result. Cue Cards provide step-by-step instructions for completing specific activities. These helpful instructions float on top of your program while you work to serve as a reference as you complete your task.	Lotus programs do not have the equivalent of Wizards or Cue Cards. Users must figure out on their own what steps are involved in completing complex tasks by using traditional manuals or help files. No intelligent assistance is provided either in making correct decisions or in executing the steps to complete a complex task.

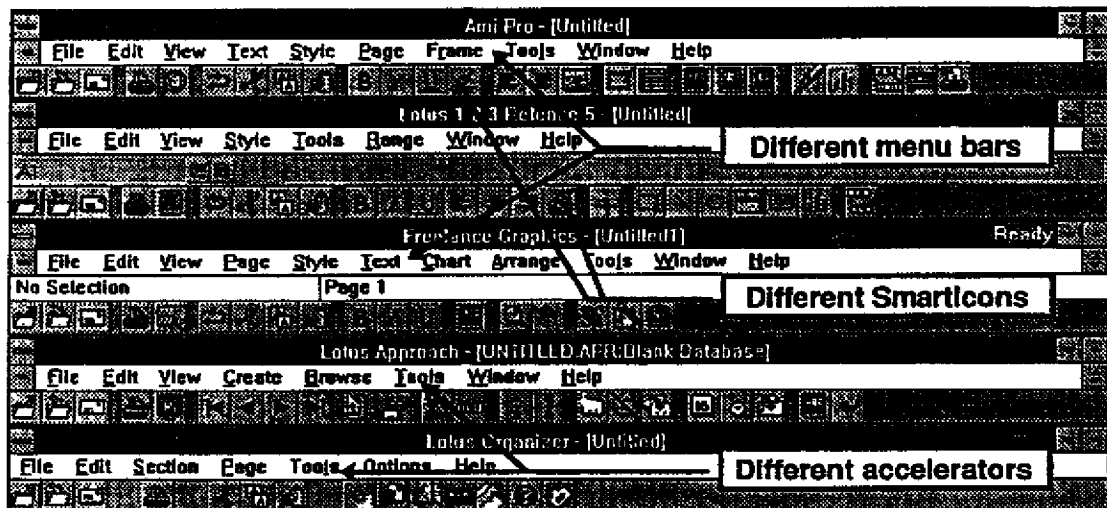
Consistency

<i>Summary</i>	"SmartSuite applications have always shared a common interface, common screen layout, common menus and the same set of timesaving SmartIcons" ¹³
<i>Implications for Office</i>	Lotus doesn't deliver on this message as well as Office. We need to expose the discrepancies in their user interface. Some evidence is presented below.

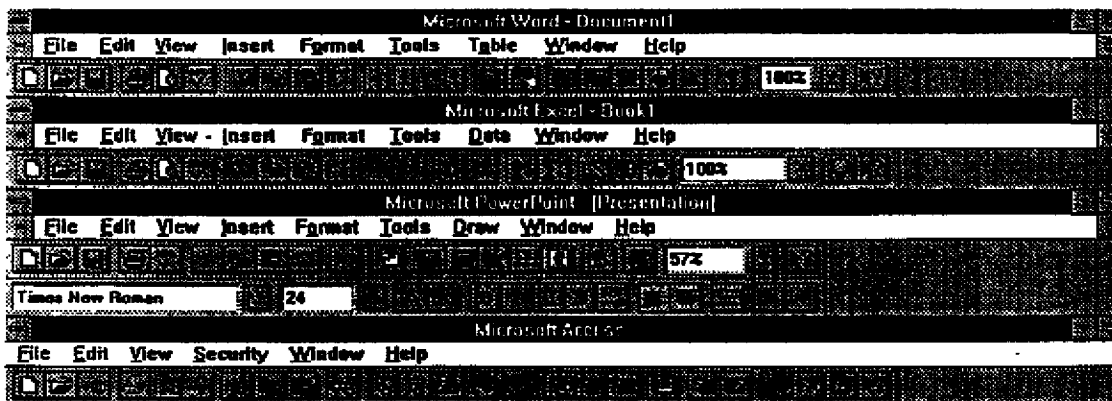
Consistent menus

Microsoft Office delivers a more consistent menu structure than Lotus SmartSuite. The following illustrations and tables show that Microsoft has a much more consistent menu interface than Lotus.

INCONSISTENT SMARTSUITE MENUS



CONSISTENT OFFICE MENUS



¹³ Lotus SmartSuite 3.0 launch brochure.

The File menu is a great candidate for evaluating the consistency of each suite because users display it at least once per session.¹⁶ Office's File menus are nearly identical while SmartSuite's File menus have the following problems:

- Inconsistent accelerators (Printer Setup.... Printer Setup.... and Printer Setup...)
- Inconsistent command names (Print Setup... and Printer Setup...)
- Inconsistent functionality (Doc Info..., Print Preview)

The following tables demonstrate the dissimilarities in SmartSuite's File menus.

INCONSISTENT SMARTSUITE FILE MENU

1-2-3 File Menu	Ami Pro File Menu	FreeLance File Menu	Approach File Menu	Organizer File Menu
New	New	New	New	New Ctrl+N
Open... Ctrl+O	Open... Ctrl+O	Open... Ctrl+O	Open... Ctrl+O	Open... Ctrl+O
Close	Close	Close	Close	Close
Save Ctrl+S	Save Ctrl+S	Save Ctrl+S	Save Approach File Ctrl+S	Save Ctrl+S
Save As...	Save As...	Save As...	Save As...	Save As...
	Revert to Saved		Delete File...	Revert to Saved
	Import Picture...	Import...	Import Data...	Import...
		Import Chart...	Export Data...	Export...
		Export		Include...
		Doc Info...	Approach File Info...	Reference...
Doc Info...	Doc Info...	Doc Info...		Passwords...
Protect...	File Management...			
Send Mail...	Send Mail...	Send Mail...	Send Mail...	Send Mail...
	Master Document...	Network Options...		
	Merge...			
	Print Envelope...			
Print Preview...			Preview...	
Page Setup...				Page Setup...
Print... Ctrl+P	Print... Ctrl+P	Page Setup...	Print... Ctrl+P	Print... Ctrl+P
Printer Setup...	Printer Setup...	Print... Ctrl+P	Print Setup...	Printer Setup...
Exit	Exit	Printer Setup...	Exit	Exit
1 Sheet.WK4	1 AmLSAM	1 Present.PRE	1 Data.APR	

¹⁶ Microsoft Word for Windows instrumented version results.

CONSISTENT OFFICE FILE MENU

Excel File Menu	Word File Menu	PowerPoint File Menu	Access File Menu
New... Ctrl+N	New... Ctrl+N	New... Ctrl+N	New Database... Ctrl+N
Open... Ctrl+O	Open... Ctrl+O	Open... Ctrl+O	Open Database... Ctrl+O
Close	Close	Close	Compact Database...
Save Ctrl+S	Save Ctrl+S	Save Ctrl+S	Convert Database...
Save As...	Save As...	Save As...	Encrypt/Decrypt Database...
Save Workspace...	Save All		Repair Database...
Find File...	Find File...	Find File...	Toolbars...
Summary Info...	Summary Info...	Summary Info...	Unhide...
Page Setup...	Templates...		Run Macro...
Print Preview...	Page Setup...	Slide Setup...	Add-Ins
Print... Ctrl+P	Print Preview...		
Print Report...	Print... Ctrl+P	Print... Ctrl+P	
Send...	Send...	Send...	
Add Routing Slip...	Add Routing Slip...	Routing Slip...	
1 Sheet.XLS	1 Document.DOC	1 Present.PPT	1 Data.MDB
Exit	Exit	Exit	Exit

Consistent dialogs

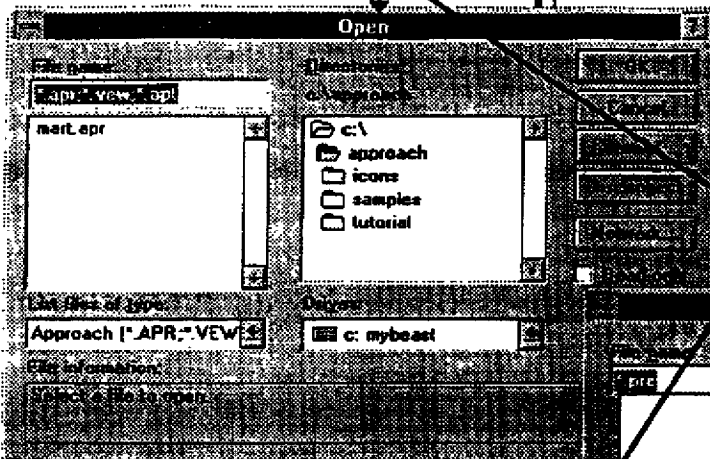
Consistent applications is of paramount concern to users of suite applications. When asked how Microsoft should allocate its time and resources, 37% of our users cited improving consistency among Office applications as their number one request.¹⁷ Microsoft made this a high priority for our latest releases and its paying off. Lotus, on the other hand, has taken an evolutionary approach to consistency. Rather than biting the bullet and reworking their user interfaces to be consistent, Lotus decided to take a piecemeal approach.

The following screen shots show the various file open implementation in Lotus SmartSuite and Microsoft Office.

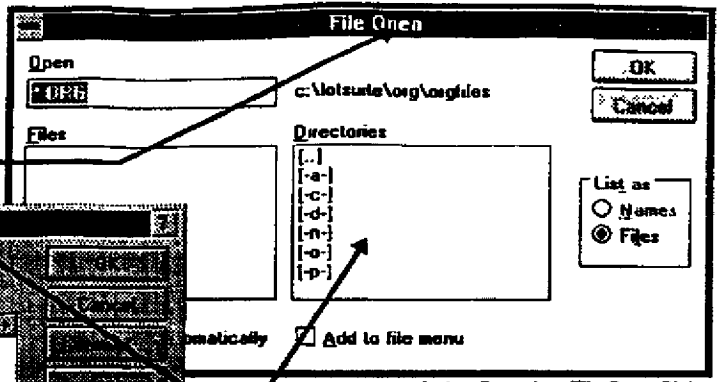
¹⁷ Office Usage Study results, May, 1994.

Lotus File Open Dialogs

Inconsistent dialog titles

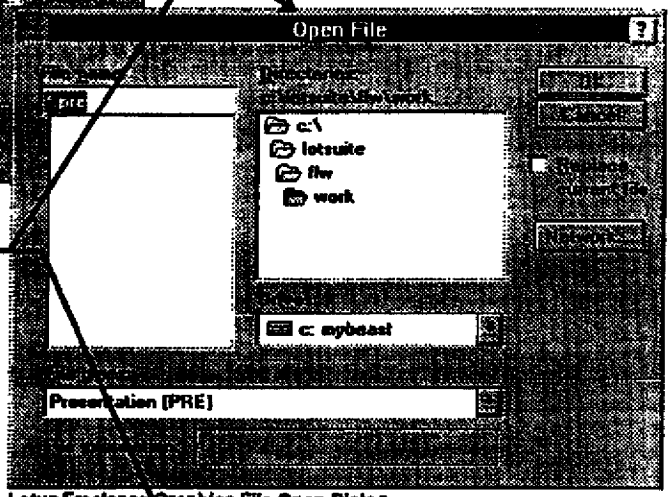


Lotus Approach File Open Dialog

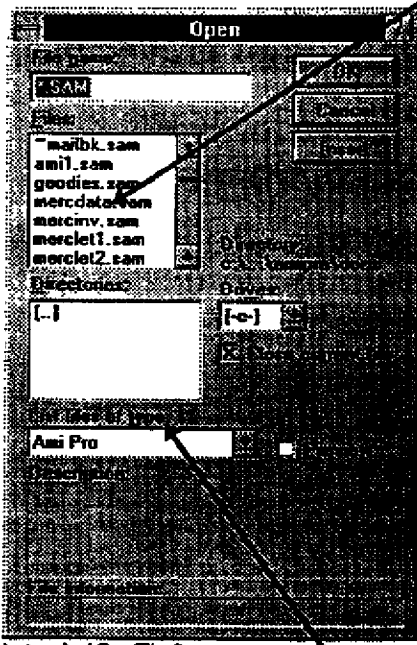


Lotus Organizer File Open Dialog

Inconsistent controls

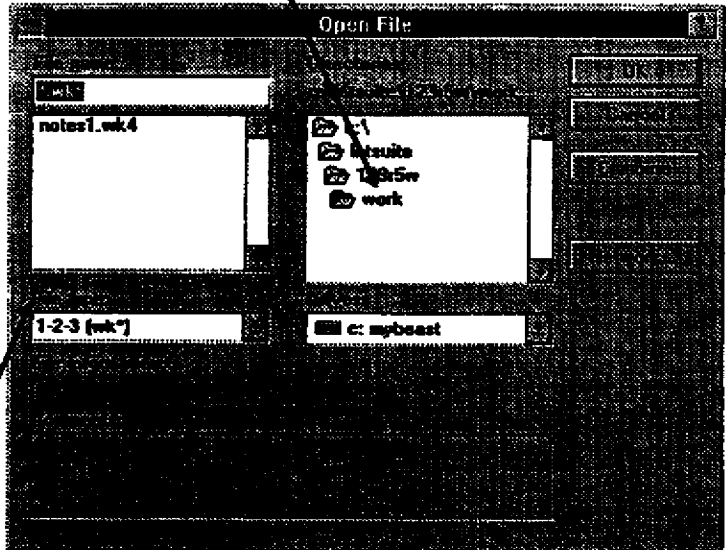


Lotus Freelance Graphics File Open Dialog

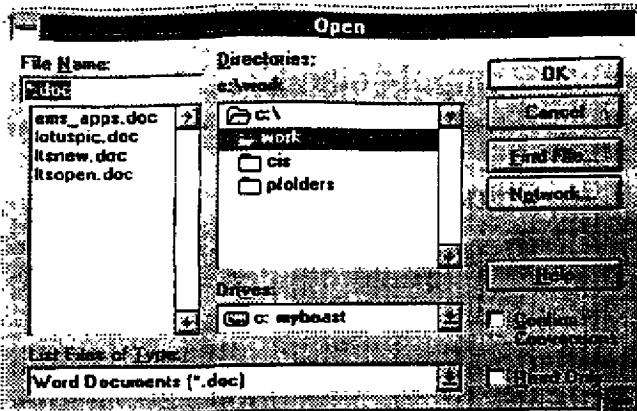


Lotus Ami Pro File Open

Inconsistent labels



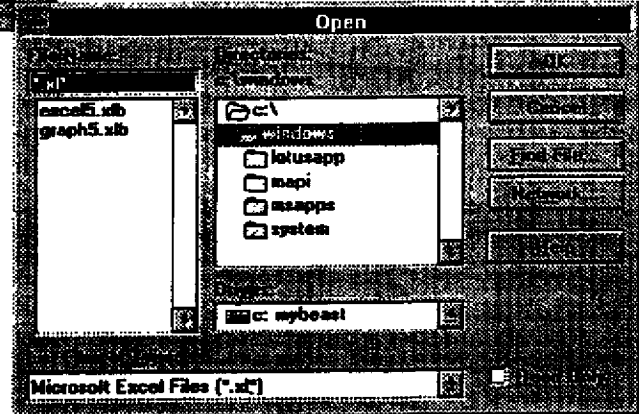
Lotus 1-2-3 File Open Dialog



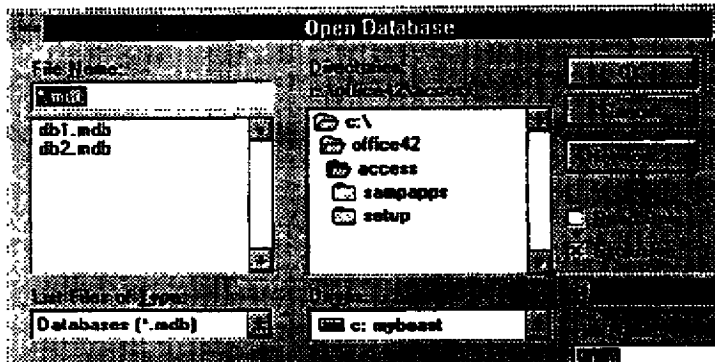
Microsoft Word File Open Dialog

Microsoft File Open Dialogs

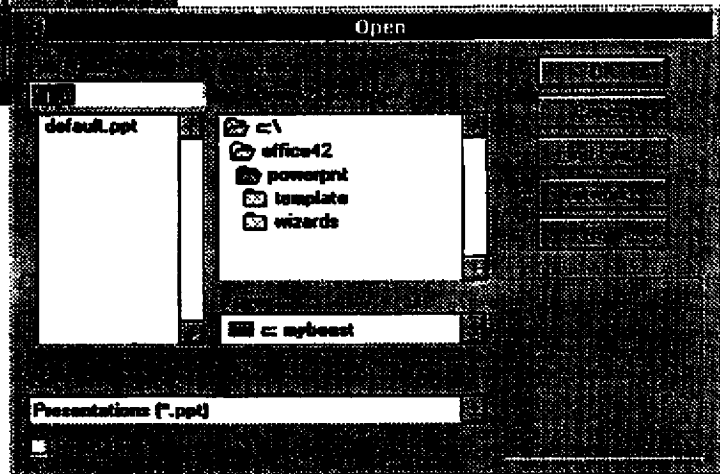
Consistent dialog titles
 Consistent controls
 Consistent labels
 Consistent network buttons



Microsoft Excel File Open Dialog



Microsoft Word File Open Dialog



Microsoft PowerPoint File Open Dialog

Microsoft and Lotus both promise a consistent user interface but only Microsoft truly delivers on this customer promise. One out of five Office users say their primary reason for being satisfied with Office is the similarities between applications.¹⁸ In short, Lotus may speak about consistency between applications but Microsoft delivers it.

Performance

<i>Summary</i>	The positioning for Ami Pro changed from "best" to "fastest" word processor for Windows. The change in positioning reflects a key vulnerability for Office. Microsoft Office requires an additional 2 megabytes of memory for acceptable performance. For most machines the performance of two Office applications under Windows 3.11 in 8 megabytes of memory is unacceptable.
<i>Implications for Office</i>	We need to seriously look at reducing our memory footprint and helping other groups (OLE, ODBC, MAPI, etc.) do the same. We CANNOT require a more powerful machine for Office 95 and 96. All of the development groups are spending considerable resources on improving the performance of the most common user scenarios--scrolling, file operations, printing, etc.

Implications for future versions of Microsoft Office

In Microsoft Office 95, we need to develop a set of cheap and sexy integration features. Perfect execution on this task gives us ammunition to fight off a major release of SmartSuite in 1995. We also need to put our ears to the ground and find out exactly what Lotus has promised for 1995: LotusScript, OLE 2.0 or OpenDoc, an object model, etc. Based on these promises, we can better understand how late in 1995 they will ship and with what features.

In Microsoft Office 96, we need to focus on simplifying our user interface by unifying the presentation of our features to our customers. This can be accomplished through the merging of toolbars and menus into a single concept and the addition of modeless property browsers that are context sensitive. The social interface will provide a single entry point for our help system, consolidating a variety of help mechanisms into a single metaphor.

In the vacuum created by our delayed workgroup offering, Lotus positioned Notes as the workgroup enabling technology. In Office 96, we need to ensure that Ren offers the functionality of the Notes client and that we tightly integrate with Back Office to provide the server functionality. By having a scalable workgroup strategy, peer-to-peer to workgroup to enterprise, we can offer a full range of features appropriate to each customer's needs and investment.

Incorporating the visual aspects of Project X/W, will help Office 96 redefine how a user interacts with our bundle of applications. Instead of an application centric view, Office 96 will have a time and task centric view. Each application will have to interact with Ren through rich views, task notification (completion and addition), and advanced mail capabilities (routing, forms, etc.).

Finally, Lotus made performance one of their key selling points. Office 96 needs to be really hard core about adding features so that we can do the impossible: improve performance between versions while adding significant new functionality. Office 96 must run reasonably well in a 8 meg i486 machine.

¹⁸ Office Usage Study results, May, 1994.

Word 6.0 vs. Ami Pro 3.1 Comparison

Ami Pro 3.1 is being marketed as the word processing leader in usability and workgroup computing. The few new features are a ToolTips equivalent, footnote continuation messages, a Welcome dialog, a Notes database for sharing documents, and the ability to write mail memos and send them directly to cc:Mail and Lotus Notes users.

Lotus is using Ami Pro as a pawn in a big chess match, in which Notes is their king. Ami Pro is not directly competing against Word. Rather, as an application type that almost everyone uses, it is being developed as the end user's front end to seamlessly tie in with Notes and cc:Mail. Lotus has had huge success with Freelance's ease-of-use and is trying to map that over onto Ami Pro. It will be marketed as the friendly word processor that puts power and the latest workgroup technology into the hands of users so they can get their day-to-day tasks done quickly and easily.

What's new in Ami Pro 3.1?

New features

Ami Pro 3.1 only has a few new features:

Ease of use

BUBBLE HELP

ToolTip equivalent. Displays help when the cursor is positioned over a screen object.

Positives

- Cheap feature to develop with tremendous user benefit.

Drawbacks

- Catch-up feature
- Large balloon, Apple style, is obtrusive and annoying.

WELCOME SCREEN

Upon launching Ami Pro, displays a screen that allows the user to launch the tutorial.

Positives

- Cheap feature to develop (a macro) with tremendous user benefit.

Drawbacks

- Once the user turns it off there is no easy way to turn it back on.

FOOTNOTE CONTINUATION MESSAGE

Open, Edit, Close

Positives

- Key feature for legal accounts.

Drawbacks

- Not as powerful as Word 6.0's footnote continuation feature.

Workgroup

DOCUMENT SHARING SYSTEM

Open, Edit, Close

Positives

- Makes document creation, editing, and versioning easy and manageable

Drawbacks

- Requires Lotus Notes.

across a workgroup.

- Leverages Notes' replication, security, notification services, and its support for mobile access.

AMI PRO MAIL

Ami Pro now allows you to create mail memo's using the full functionality of the word processor. AmiMail directly to cc:Mail and Lotus Notes users.

Positives

- Supports Lotus's workgroup strategy.

Drawbacks

- Only works with Notes, cc:Mail, and VIM.

Key marketing messages of Ami Pro 3.1

Lotus is setting the standard for today's word processors.

Summary Ami Pro's focus on workgroup computing makes power word processing simple. Notes, Notes, Notes. This is an area we need to look at very seriously. We all know that workgroup computing can make users more efficient and effective, and this is important for the decision makers in corporate accounts. The key is that it has to be done right. Notes is a great example—some users swear by it, other swear at it.

Implications for Word Word needs to make sure we execute on our workgroup features in Word 95, including Word as your email editor and Notes/FX 1.1 support. Lotus is focusing their marketing on offering customers truly integrated products. Microsoft will have a response to Notes soon—what solution can/should we offer Office users for integration and conversion?

Ami Pro is the best designed word processor for day-to-day word processing needs.

Summary This ties in with the message above. Power can intimidate users so they're doing whatever they can to make the product seem inviting. One of their actual lines was "Ami Pro 3.1 makes power word processing so easy that it is fun." They have a great role model in Freelance and I expect they'll leverage whatever they can.

Implications for Word I don't think Word is threatened here. Ami Pro has to focus more on new users since their installed base is so low. Word has done a nice job of welcoming new WordPerfect users.

Feature comparison by marketing message

Evaluation Criteria	Ami Pro 3.1	Microsoft Word 6.0
Ease of use	Lotus can offer a word processor that's "so easy that it is fun."	They will probably be going overboard adding in new features that are so hold-your-hand focused, they'll be utterly annoying after the first 10 minutes of using the product. They're making sure usability never gets in the way of a sale so they can focus on their "power" message of Notes integration and workgroup computing.

Evaluation Criteria	Ami Pro 3.1	Microsoft Word 6.0
Bubble Help	Bubble Help Allows you to simply move your mouse across an icon and quickly view the icon's description. Once you have learned the descriptions, you can turn Bubble Help off. You can still access Bubble Help by right mouse clicking over an icon and viewing the description.	ToolTips This is just the overdue catch-up to ToolTips. However, they made the same mistake as Apple—to make them more friendly, they made big cartoon speech bubbles (like the Mac's balloon help). There's a <i>slight</i> pause but for the most part they're incredibly annoying—no wonder Lotus added a way to turn them off!
Intro. Screen	Welcome screen Ami Pro 3.1 allows you to display the Welcome to Ami Pro dialog box each time you start Ami Pro. You can set the WELCOME.SMM macro to automatically run each time you start Ami Pro by choosing Tools/User Setup, selecting Program Load and the WELCOME.SMM macro, and choosing OK. The next time you start Ami Pro, the Welcome to Ami Pro dialog box appears with options for creating a new document or working on an existing document. You can also start the tutorial from this dialog box.	Quick-and-dirty macro added in to give users a warm, fuzzy feeling upon startup. There's a checkbox on the dialog to disable it—probably 99% of users will take advantage of this.
Footnote Continuation Message	Footnote Continuation Message Ami Pro 3.1 allows you to specify continued on and continued from messages for any footnote text that does not fit on one page. These messages let your readers know that a footnote continues to the next page or is continued from the previous page. The footnote continuation messages use the characteristics of the Footnote paragraph style. You can left or right align a continued on or continued from message and select to repeat the footnote number with the continued from message.	Footnote Continuation Message Option to have footnotes break across pages and insert a "(continued...)" message. Another catch-up feature—probably added for a key account.
Workgroup	Lotus is the leader in workgroup computing and has a solution <i>today</i> . Integrating Ami Pro, 1-2-3, and Freelance into the workgroup solution gives all users access to this powerful and advanced way to work resulting in increased productivity.	This is the core of their message. Notes is their only real weapon and they're using it however they can. Microsoft has focused on giving a user the power to create a document regardless of application. Lotus' messaging puts 20% into integration and usability features (OLE, SmartCenter,...), and 80% into the bigger picture of

Evaluation Criteria	Ami Pro 3.1	Microsoft Word 6.0
<p>Word Processor as Mail Editor</p>	<p>Ami Pro Mail</p> <p>Allows you to create mail memos in Ami Pro and send them directly to cc:Mail and Lotus Notes users. A style sheet is provided for creating mail messages in which you can take advantage of all of Ami Pro's robust text editing capabilities including bullets, tables, graphics, revision marking, layout, etc. Additional features include the option to copy the text from the Ami Pro file into the mail message, to attach the Ami Pro file to the mail message, to attach the file in a different file format (WP, Word, RTF, etc.), return receipt requested, Priority normal/low/urgent, and suggest that receiver use Revision Marking.</p> <p>When you send a mail message, Ami Pro creates a file attachment of your document and also attaches the MAILMEMO.SAM file which includes the Send Mail commands.</p> <p>You can reply to an Ami Pro mail message through Lotus Notes or cc:Mail. To reply to an Ami Pro mail message, you launch the MAILMEMO.SAM file attachment from Notes or cc:Mail. Ami Pro is launched with the Send Mail Memo offering reply options. Once you select a reply option, Ami Pro changes the reply options to send options.</p>	<p>sharing those files in a workgroup (creation, editing, versioning, storage, security).</p> <p>I'm not sure what to make of this. It's a very strange implementation with limited functionality. It seems like a hack that was implemented just to list the feature on the box—and to list another integration feature with Notes.</p> <p>I'd think recipients would be frustrated with the fact that they're forced to launch Ami Pro to read the message. The sender is making the decision for the recipient. Even though this is a commonly requested feature, I'm not sure if hardware (i.e. average RAM installed) is ready for this. Word allows you to do it for special situations (documents) which is great. Seems like overkill to have every message written in your word processor.</p>
<p>Document Sharing System</p>	<p>Managing the creation and sharing of documents between people in a workgroup is difficult. It is hard to keep track of information when it comes from many places and applications.</p> <p>To help solve this problem, Ami Pro provides a document sharing database for workgroups to help them manage, share, and track documents. The Document Sharing Application is a special Lotus Notes database allowing users to create, store, and track documents in a central</p>	<p>This is a Lotus Notes database that allows users to create and store documents in a central location. Benefits to users include making document creation, editing, and versioning easy and manageable, as well as leveraging Lotus Notes' replication, security, notification services, and its support for mobile access.</p> <p>A Document Sharing palette (toolbar) has been added to Ami Pro, and Ami is the only place to access on-line help</p>

<i>Evaluation Criteria</i>	<i>Ami Pro 3.1</i>	<i>Microsoft Word 6.0</i>
	<p>location—making document creation, editing, and versioning easy and manageable. The Document Sharing System offers a quick and powerful workgroup tool which leverages Lotus Notes' replication, security, and notification services as well as its support for mobile access. (Requires Lotus Notes)</p> <p>Document Sharing puts the author into the right application with the right format, allows many people to access the document at the same time, and keeps track of who's accessed the document and what they did.</p> <p>Once you create a word processing document, you can set editing and viewing rights for other people in your workgroup as well as specify version control and change notification options. Versioning allows people to make copies of the document so they can make revisions in the copies but not in the original document. The change notification options allow you to specify who should be notified when you make changes to the document. Document Sharing allows you and the people in your workgroup to better manage and maintain your documents.</p> <p>The Document Sharing Application ships with Ami Pro 3.1. It comes with 7 templates: 3 Ami Pro (may be used as style sheet or models), 2 Freelance, and 2 1-2-3 v4.0 (Freelance and 1-2-3 files may be used as models, not SmartMasters).</p> <p>Before workgroups can use Document Sharing, the Lotus Notes manager (sysop) must prepare the database in Notes: add it to the network, assign people to the workgroup, set per-user privileges, create or edit templates if necessary, and so on. Only the Database Administrator can create or modify templates.</p> <p>Perks of Notes are version control to determine whether editors make changes in the original document or a copy, and</p>	<p>about this product (weird since it must be launched from within Notes). Otherwise, Lotus has essentially taken a Notes feature and camouflaged it as an Ami Pro feature as a way to reach more users in their Notes campaign.</p> <p>This is an enticing feature and can be just the nudge customers need to push them into buying Notes and beginning their investment in Lotus.</p>

<i>Evaluation Criteria</i>	<i>Ami Pro 3.1</i>	<i>Microsoft Word 6.0</i>
	<p>notifications each time someone changes your document (the original or a copy). Security lets you set per-user or per-workgroup privileges for documents from Ami Pro, Freelance, or 1-2-3. For Ami Pro documents, privileges include being able to only insert comments (remarks to the document name in the Notes listing).</p> <p>Notes is your starting point for activating Document Sharing. When you open a file, the system switches you to Ami Pro, Freelance, or 1-2-3 and opens the Workgroup Document Editing Options screen telling you your privileges. You can then use all of the editing functions available in the active application. Also, Ami Pro has a special Document Sharing palette (toolbar) to quickly access certain editing and file functions. After reviewing or changing a document, you exit to Lotus Notes. (Note: On-line help is only available within Ami Pro, and there are no printed docs.)</p>	

Implications for future versions of Word

We need to be prepared with a long term strategy (both marketing and development) to address workgroup computing and our integration with EMS. This is an area that Lotus has found a niche which they're digging into a groove, and WordPerfect is falling another step behind.

Excel 5.0c vs. 123 Release 5.0 Comparison

Lotus Development Corp. shipped a new version of 123 for Windows during the summer of 1994. 123 Release 5.0 for Windows does not represent a big leap forward for 123. 123 Rel 5 introduces a few interesting features, such as tight integration with Lotus' Approach 3.0 database, spreadsheet mapping and range routing. However, the release includes little heavy architecture work that redefines spreadsheets. On the surface, 123 Rel 5's signature features threaten Office superiority in some areas, but design flaws limit their usefulness to actual users.

What's new in 123 Release 5.0?

New features

Any marketing piece from Lotus concerning 123 Rel 5 will call out the following features:

Integration

APPROACH 3.0 INTEGRATION

	Positives	Drawbacks
Forms	<ul style="list-style-type: none"> • Make a basic data entry screen for your 123 list with the push of a button. • Customize the screen with dropdown lists, radio buttons, and macros to control input. 	<ul style="list-style-type: none"> • Must have Approach 3.0 and must launch it into memory (raises system requirements) • Excel has had Data Form built-in since Excel 2.
Reports	<ul style="list-style-type: none"> • Create sophisticated reports with Approach's WYSIWYG report writer • Group and break reports 	<ul style="list-style-type: none"> • Must have Approach 3.0 and must launch it into memory (raises system requirements) • Excel has built-in Subtotals command which supports multi-level subtotals.
Dynamic Crosstabs	<ul style="list-style-type: none"> • Drag and drop analysis • Labels scroll with the table so they're always in view • You can create custom calculated fields. • Cool, "etched steel", UI with nice cursors. 	<p>Purport to answer Pivot Tables, but fall far short. Really a reporting tool, not an analysis tool.</p> <ul style="list-style-type: none"> • <i>Approach feature:</i> returns icons to 123, preventing you from charting the table, or doing further analysis • <i>Sloooooow.</i> Approach is at least an order of magnitude slower than Pivot Tables. On a 2500 record database: <ul style="list-style-type: none"> ⇒ 11 sec to create 3-field table, vs. <1 sec for Excel ⇒ 11 sec to add a field, vs. <1 sec for Excel ⇒ More extreme difference between

	<p>Excel and Approach with larger number of items in fields</p> <p>⇒ Timed on a Pentium/90 with 32 MB RAM</p> <ul style="list-style-type: none"> • <i>Lacks grouping</i>: can't define your own "dimensions" or combine date data into larger units. • Can't subtotal items with detail rows (i.e., subtotal for category when products are listed as detail). • <i>No outlining</i>: can't collapse or expand the report • <i>Sparse table</i>: shows all items under all categories, even those with no data • No drilldown to detail records.
Mailing Labels	<ul style="list-style-type: none"> • Must have Approach 3.0 and must launch it into memory (raises system requirements)

NOTES INTEGRATION

	Positives	Drawbacks
Version Manager	Version Manager is the easy way to track worksheet changes. View versions by date, and author. 123 users with Lotus Notes can collaborate on a single file at the same time anywhere in the world.	<ul style="list-style-type: none"> • Version Manager still suffers from having a most confusing UI, resulting from an over-architected approach to solving a customer need.
Notes/FX	Notes/FX 1.1 support lets you write Lotus Notes applications containing your spreadsheet templates so everyone in your workgroup can access them.	<ul style="list-style-type: none"> • Notes/FX 1.1 offers no additional functionality - it's a marketing response to Office 4.2c.
NotesSQL ODBC driver	Access data in a Notes database directly from 123 via Data Query Assistant.	<ul style="list-style-type: none"> • Does not permit the user to update Notes Databases.

Ease of use

CONTEXT-SENSITIVE INTERFACE

	Positives	Drawbacks
Dynamic menus and SmartIcons	Provide instant access to appropriate to each task.	<ul style="list-style-type: none"> • Limits flexibility: <ul style="list-style-type: none"> ⇒ Can't see more than one SmartIcon palette at a time ⇒ Selection model for Query objects is buggy
Dynamic mouse cursor	The mouse cursor changes to help you	<ul style="list-style-type: none"> • Consistency with other members of

	understand the operation you are performing.	SmartSuite!
Direct Drag and Fill	Just drag out the corner of a cell and 123 will fill in the data for you Fills rows and columns simultaneously	<ul style="list-style-type: none"> No "handle" to "grab" (even Lotus demoers have a hard time!) There are few instances where filling both makes sense
Fast Format	Copy formats from one range to another.	
SmartAssistants	Step through building a chart, querying a database, or creating forms, reports or mailing labels with new dialog boxes to assist your every move.	<ul style="list-style-type: none"> Lotus appears to be trying to establish a family story by naming a few features in 123 "SmartAssistants". Actually, these are only dialog boxes, not the elegant tabbed dialogs in Approach 3.0. ⇒ Query Assistant is the same as in Rel 4 - "Query by Box" with 3 steps in a single dialog ⇒ Chart Assistant is one screen with 2 steps: select range and click OK. ⇒ Map Assistant looks and works the same as the Chart Assistant.
Drag and Drop	Move or copy data across ranges, sheets, files, and apps.	

LOTUS MAPS

	Positives	Drawbacks
Lotus Maps server	Create color-coded maps of spreadsheet data to see how different regions stack up. Edit the map directly from 123's menus.	<ul style="list-style-type: none"> <i>Not general purpose:</i> Although it's an OLE 2 server, all useful commands are in 123 menus. Can't edit the map using menus in Map Viewer. Can't create a map in any other app, because it lacks commands to handle data. <i>No data orientation:</i> Refers to "Colors", "Patterns", or ranges, rather than the user's field headings, so the user can't refer to "1993 Sales" or another label they have entered. <i>Designed to fit only the most basic usage scenario.</i> It doesn't take into account: <ul style="list-style-type: none"> ⇒ Aggregation - i.e., 2 records for the same region ⇒ Ad hoc analysis - hard to switch data series on a map. ⇒ Formatting - very hard to change

		the number of "bins" shown ⇒ External data
		<ul style="list-style-type: none"> Moving a map from 123 to another app (i.e., FreeLance) loses links to data, so you won't be able to edit the map.
Geographic Data	Rel 5 includes the following maps: <ul style="list-style-type: none"> World by country European Union by country US, Canada, Mexico, Japan, Taiwan and Australia by state Alaska and Hawaii 	<ul style="list-style-type: none"> Users may never use some maps Alaska and Hawaii aren't part of the US Map. You can't make a map that includes data for all 50 US states!
Demographic Data	123 Rel 5 includes a superb selection of basic demographic data for all regions for which there is a map. Includes population, income, employment, etc.	

SMARTMASTERS		
	Positives	Drawbacks
SmartMasters	<ul style="list-style-type: none"> Speed up preparation of expense reports, invoices, purchase orders, and more. 	<ul style="list-style-type: none"> Our research on templates indicated that usage tends to be low in spreadsheets because they already have reports that are formatted the way they want to see their data.
SmartMaster Shell	<ul style="list-style-type: none"> Build and distribute your own SmartMasters that look and work like the built-in ones. 	<ul style="list-style-type: none"> Forces you to re-create your template inside the Shell, which could involve a considerable amount of effort.

Workgroup

RANGE ROUTING		
	Positives	Drawbacks
Range Routing	Mail a spreadsheet range to others in the workgroup for their input, then roll everyone's ideas back into your file. Uses VIM or MAPI systems.	Range Routing supports 2 scenarios: <ul style="list-style-type: none"> Route 1 range to several users. Limited utility. Although you can merge responses into one file as versions, you can't combine best ideas from each version into a single version. Route a different range to each of several users. More useful, but isn't executed well. Sheet protection is not used, so you can "corrupt" the process up by inserting a row or column, or

typing data in a cell outside the originally routed range. Also require the user to learn Version Manager.

Key marketing messages of 123 Release 5.0

The features that Lotus has added to 123 Rel 5 do not necessarily represent strategic directions for the product. They will certainly continue to push the workgroup message, and will continue to introduce features which strengthen 123's ties to Lotus Notes. The Approach integration predicts tighter integration with other members of the SmartSuite family. Lotus has not tightly bound Ami Pro to 123 yet - I expect that this is a future direction. With 123 Rel 5, Lotus has left some major ground uncovered. Specifically, 123 made few strides in ease of use:

- 123's Assistants are "assistants" in name only, and do not follow the tabbed dialog convention introduced by Approach's Assistants
- 123 Rel 5 did not implement the InfoBox from Improv as Approach did.

Also, Lotus has still not made any strides in programmability. 123 Rel 5 has the same function-based macro language which lacked the power of XLM. LotusScript has not been added to a mainstream application. Finally, 123 for Windows has suffered for years from the impression that it does not match the analytical power of Excel or Quattro Pro. Neither 123 Rel 4 nor Rel 5 have been able to reverse this opinion. 123 Rel 4, for instance, scored at least 10% lower in the analytical category in every major comparative review. With the recently announced death of Improv, expect the next major release of 123 to include a modeling capability.

Maximum Productivity, Minimum Effort

Summary "123 Release 5 is packed with innovative features designed to help you get more done with less effort."

Lotus studies the user, understands the most common tasks users do, and finds ways to streamline them:

- SmartMasters help create typical documents
- Drag and Drop lets you move data anywhere you need it to go
- One-Step Charting gives you a complete chart the first time

...And so on.

Implications for Excel Lotus has been successful in getting this message across to reviewers. Reviews of 123 Rel 5 consistently state that the product is well-targeted towards the mainstream user. This message will only get stronger as Lotus adds to 123 some of the features we expect: InfoBox, Tabbed SmartAssistants, etc.

In contrast, Excel is increasingly seen as "powerful", and "packed with features". In the view of some reviewers, Excel has been stuffed to overflowing with tools that many people will never use. The fact that there is something for everyone in Excel has given rise to the feeling that there is too much for anyone. Excel certainly has features that are specifically designed to meet mainstream user needs. We need to focus on ways to illustrate the fact that Excel serves everyday user needs in the most practical ways.

The Cleanest, Simplest User Interface

Summary "123's elegantly-designed user interface helps you get to the selections you need, when you need them."

Lotus designs software that you can use without a lot of learning. 123 removes choices which might be confusing to a user and displays only the appropriate Menus and SmartIcons, depending on your selection of a range, chart or query.

Implications for Excel Excel 3.0 and 4.0 were seen as elegant products. Excel 5.0 has been reviewed as "powerful", but "packed with features". There are so many features that Excel 5.0 seems to be too much for anybody. The default screen shows 2 toolbars with 39 tools, the Formula Bar, Sheet Tabs, and Status Bar. We need to focus on ways to re-capture the feeling of elegance - shortening the menus, and reducing the clutter of "controls" shown on the screen would be a start. Providing intelligence that helps users get answers from Excel without even knowing which tools to use is a more significant step.

"Notes-ready": Extends the Desktop to the Workgroup

Summary "123 allows people to work better and be more productive as individuals or in a workgroup."

Lotus has built tools into 123 Rel 5 which facilitate work in groups:

- Range Routing lets you mail a spreadsheet range to people for their input, then roll everyone's ideas back into your file.
- Version Manager is the easy way to track worksheet changes. View versions by date, and by author.

Plugging 123 into Notes takes you to a higher level of group productivity:

- Notes/FX 1.1 lets you write Lotus Notes apps that contain "libraries" of spreadsheets that everyone in your workgroup can access.
- 123 users who have Lotus Notes can use Version Manager to collaborate on a single file at the same time anywhere in the world.

Implications for Excel It's no big newsflash that Lotus has claimed the workgroup "high ground". Notes remains a mainstay of their messaging, but they finally have another feature to trumpet. Range Routing is a good feature, and has been well-received. In the short term, we should play up some of the weaknesses of the feature (i.e., you have to use Version Mgr.). In the longer term, we need to examine workgroup-task-specific features for Excel.

Approach Integration

Summary "Create intelligent forms, PowerClick reports, mailing labels, and dynamic Crosstabs on your worksheet without ever leaving 123."

Tight integration with Approach 3.0 allows you to use the most advance database tools to manage your 123 list. And it seems as if it's all built into 123.

Implications for Excel The Approach features are the most compelling features of 123 Rel 5. Unfortunately for Lotus, they also work with 123 Rel 4.01, which nullifies the biggest carrot for upgraders! The Approach Forms creator is slick and very functional, and exposes the user to InfoBox, a great usability feature coming soon to a 123 version near you. Approach's report writer is quite powerful, and gives views of live data even while designing the report. The tabbed Assistants from Approach make it easy to set up the forms and reports with just a few clicks of a mouse.

In the Office 4 time frame, we must fight this by talking about how Excel gives you *most* of this functionality by itself with Data Form, AutoFilter, Subtotals, and Pivot Tables. "Why load 2

apps, which requires 8+ MB of RAM, when you can get it all in Excel?"

We address some of these features in the next version, with much improved Access integration.

Working Together

Summary SmartIcons and menus are consistent across Lotus SmartSuite, and it's simple to move data from 123 to any other SmartSuite app, or vice versa. Working Together enables people to perform tasks that cross product boundaries.

Implications for Excel Lotus SmartSuite is getting closer, but the apps lack the attention to detail which is so critical to consistency. For example, some SmartIcons are different in the latest version of 123 and Approach - Print Preview for example. 123 and Approach each boast that the interface changes to reflect the selected object, but the menu they use for this is in a different position in each app (5th in Approach, 6th in 123).

123 and Approach offer very good task-specific integration. However, their incomplete and inconsistent implementation of OLE features hurts their overall integration story.

Feature comparison by marketing message

Evaluation Criteria	123 Release 5.0	Microsoft Excel 5.0c
Ease of use	<ul style="list-style-type: none"> • "Maximum productivity, minimum effort" • Huge focus • Great acceptance 	<ul style="list-style-type: none"> • "Beyond ease of use" • Huge focus • Great acceptance
	Displays only the appropriate commands for the selection	
	Edit directly in a cell	Edit data directly in a cell, and format it per character.
	Move or copy data across sheets, files or to other apps	Move or copy data on sheets or to other apps. Non-default allows you to insert ranges than over-writing
	Drag out the corner of a cell and 123 fills in data for you	Build series of labels or data. Custom lists also available in sorting
	Copy formats from one range to another with one click of the mouse	Copy formats from one range to another
	Pre-built templates for common doc types	Special Workbooks open blank copies of themselves
		Filter lists in-place, by example. Create break reports automatically
	Build a chart complete with title, labels, and legend in a single step	Wizard helps you choose the right chart type and features

<i>Evaluation Criteria</i>	<i>Lotus SmartSuite 5.0</i>	<i>Microsoft Excel 5.0c</i>
Mapping	Lotus Maps	
	Create color-coded maps from spreadsheet data	
Other	Multi-Spread Formats	
	Display more than 40 international currency symbols in the same file	
	View up to 9 pages at the same time. Check your work and make changes before printing	
Spreadsheet Publishing	Desktop Publishing	SmartForm
	Help you create stunning output	Intelligently apply formatting to ranges based on structure (labels, formulas)
Workgroup		
	<ul style="list-style-type: none"> • "Maximum productivity for the desktop or the Workgroup" • Primary Focus • Great Acceptance 	<ul style="list-style-type: none"> • "Beyond personal productivity" • Growing focus • Meets with skepticism
(All-Company)	Designate ranges to people for input. Incorporate their feedback into one file.	Send files to other users, one at a time or all at once. Track progress, etc.
	Track all changes to a file. View versions by date, and author.	Plug multiple values into a model and play "what-if"
Notes/DB	Write Notes apps containing your spreadsheet templates so everyone in the group can access them	Take advantage of Notes as a document database
Consistency		
	<ul style="list-style-type: none"> • "Common user interface and tools" • Major focus • Accepted by mainstream user, breaks down under close examination 	<ul style="list-style-type: none"> • "Great part of the Office family" • Major focus • Great Acceptance
General Menu	Consistent look and feel throughout SmartSuite	8 of 9 top-level menus are exactly the same across Office
	Consistent look and feel throughout SmartSuite	Same library, very similar default toolbars.
	One-click access to styles, fonts, mail and more.	
Integration		
	<ul style="list-style-type: none"> • "Simple to move data between apps" • Major Focus • Approach integration increases acceptance 	<ul style="list-style-type: none"> • "Beyond cut and paste" • Major Focus • Strong support for OLE 2 lends credibility

<i>Evaluation Criteria</i>	<i>123 Release 5.0</i>	<i>Microsoft Excel 5.0c</i>
	Move or copy data across sheets, files or to other apps	Move or copy data on sheets or to other apps. Non-default allows you to insert ranges than over-writing
		Visual Formatting
		Edit objects in-place in a compound doc.
Integration with databases	Summarize information from 123 databases	Visual Basic for Applications
	Create data entry forms, break reports, Crosstabs, or mailing labels from 123 databases.	Dump results from a report into Excel, preserving formulas and outlines
	Data Query Assistant	Visual Query
	"Query by Box" is a single, easy to use, graphical tool for querying 123 lists or external data using DataLens or ODBC.	Query tool for all Office apps based on award-winning Access QOBE. Uses ODBC. Create and save sophisticated queries
	Data Query Assistant	Visual Query
	Open dbf or db files directly into your 123 spreadsheet	Open dbf files in Excel
Text file import		Import Wizard
	Break a single column into logical columns	Flawlessly import delimited or fixed-width text files. Preview data and determine data types in advance.
Compatibility		
	<ul style="list-style-type: none"> • "The best compatibility in the business" • Major focus • Sells well 	<ul style="list-style-type: none"> • "Easy to move from 123 to Excel." • Minor focus • Must be proven in every account
Files, Styles and Macros		
	Complete compatibility with existing 123 files, formatting and macros	Read and write existing 123 files formats, including formatting. Runs 123 Rel 2.01 macros
Learning curve		
	Just hit the "/" key for familiar 123 commands	Helps users learn Excel equivalents to familiar 123 commands.
Programmability		
	<ul style="list-style-type: none"> • "Future is LotusScript" • No focus • Weak message, no credibility 	<ul style="list-style-type: none"> • "Beyond Macros" • Huge Focus • Great Acceptance
	Automate common operations	Automate common operations
Runs 123 macros		
	Complete compatibility with existing 123 macros	Runs 123 Rel 2.01 macros
Visual Basic for Applications Language		
		Visual Basic technology offers unprecedented power and ease of use
Objects		
		All Excel functionality is packaged into

<i>Evaluation Criteria</i>	<i>123 Release 5.0</i>	<i>Microsoft Excel 5.0c</i>
OLE Automation		OLE Automation objects. Increases programmer productivity
		OLE Automation
		Access functionality in other apps as if it were built into Excel.
Customizability	Custom dialogs	
	Macro buttons, custom menus and dialogs	In addition to custom menus and dialogs, place common Windows controls right on your sheet with no programming!

Implications for future versions of Microsoft Excel

Lotus 123 Rel 5 enjoys a competitive advantage in the following areas:

User interface

123 Rel 5 offers the mainstream user a relatively uncluttered interface with menus that are short and fairly straightforward. The menus change to display appropriate choices, as does the single toolbar (SmartIcon palette). The Live Status Bar offers common options, as well as some information about the current selection. In the next release of 123, we will almost certainly see the InfoBox. InfoBox is a modeless, property sheet-like control that dynamically adjusts to the selected object. It reduces modality of an application by replacing many commonly-used "property settings" dialogs. It also eliminates the need for a toolbar for common formatting chores like font and color. InfoBox is proven, shipping technology that has won much acclaim from press and users.

To answer, we must simplify the interface of Excel by:

- Providing the right options for a selection (good for mainstream users) with an outlet for more advanced options (good for power users).
- Reducing the number of default visible controls in Excel: toolbars, formula bar, column and row headings, VCR buttons, sheet tabs. In Window 95, add to this the task bar and the result is a very cluttered UI.
- Microsoft's status bar tends to occupy room without being noticeable enough to be informative. In Window 95, it looks like a complete waste of space.
- Eliminating modality. The operation of the app is stop and go with dialogs that you have to clear. Semi-selecting out of dialogs is undiscoverable but important. Eliminating modality would teach users that it's natural to click outside a dialog.

Workgroup computing

Lotus owns the workgroup message because they integrate Notes into their messaging even more strongly than they integrate it into their products. Notes/FX facilitates document database-style apps. Version Manager provides a good, if over-architected example of a Notes-specific spreadsheet feature. Range Routing, while not Notes-specific, provides an excellent example of how an app can directly support a workgroup scenario.

To match them, we must support:

- Range delegation (single doc split among multiple users)
- Better document version management (not just for what-if analysis)
- Continued enhancement of Notes/FX

To beat them, we must support:

- Specific integration scenarios such as Consolidation, Document review, Budgeting, etc.
- "Workgroup Server"-independent features
- Collaboration with "live" updates (as you type)

Spreadsheet publishing

To match them, we must support:

- A palette of at least 256 colors
- Rotated objects
- Rotated text in cells
- Gradient fills
- Designer frames for ranges and objects

To beat them, we must support:

- Special effects
- More intelligence in applying formatting to a part or all of a document
- Integrated Multimedia and animation, for better on-screen look
- Uniform implementation of all the above across Office - same features, same interface, etc.

Access 2.0 vs. Lotus Approach 3.0 Comparison

Lotus Approach 3.0 represents a major upgrade to the product and is the first version to truly be developed by Lotus and fit into Smart Suite as transparently as the other applications. The product is being marketed as the easiest to use database period. They have leveraged perceptions by consumers and the press that the product is the simplest relational database and its major themes are Usability, Integration and Power.

As with previous versions of Approach, the product does not represent a significant challenge to Access in a database to database evaluation. The product simply does not have the horsepower for the power user or developer to even be considered a competitor to Access in these scenarios. Approach, however, has made solid strides in its overall ease of use, and perhaps most impressively its integration with 123. In an Office/Smart Suite evaluation it represents a nice add on to 123 and an easy to use solution on the low end of the database spectrum. Access 2.0 outshines Approach in that the product can extend much farther than Approach, delivering a single database solution for an entire organization from end users to developers. The Approach/Smart Suite decision nearly guarantees that the company, small or large, will have to support and maintain multiple desktop database standards in their organization. In addition, Access is easier to use for a wide range of users. While Approach still has the edge on ease of use for the novice, Access with its 30+ wizards is designed to simplify tasks for all levels of users. And finally, Access offers superior integration with Office when compared to Approach and Smart Suite. While Approach does offer nice integration with 123, it offers no integration with Ami Pro, and as we shall see has left out some of the basics of integration with minimal support of copy and paste and OLE.

What's new in Approach 3.0?

New Features

Lotus Approach has over 200 new features according to Lotus.

Ease of use

For the end user Lotus Approach is still easier to use than Access 2.0. The product feels simpler for the novice and hence hides much of the relational complexity. Access 2.0, however, is not far behind in this area. We win in the ease of learning department and we will in ease of use overall in that Access is designed to be easy to use for a wide range of users. Approach's experts and assistants stop at the end user and the product offers little for the advanced user.

50 DATABASE TEMPLATES

Positives	Drawbacks
<ul style="list-style-type: none">• Equivalent to Access's Table Wizard	<ul style="list-style-type: none">• Confusing terminology: "database" instead of "table".• Catch-up feature• Only supports single table applications.

NOTE: TAB INTERFACE

allow users to switch between multiple spreadsheets. This is a simple and consistent way to manage all of the objects in the Approach db including Tables, Form Reports etc. The design is consistent with Smart Suite however, it is not as flexible as the Access database window.

Positives

Drawbacks

- Simple user interface to manage all of the objects in Approach
- Consistent with Lotus 123 tabs.
- Not as flexible as the Access database window

APPROACH ASSISTANTS WITH SMARTMASTERS

Defined wizards for creating forms, reports, mailing labels, worksheets, Crosstabs, and charts. Nearly identical to the wizards in Access. However, the wizards in Approach have a tabbed interface allowing users fast access to the wizard's options and viewing only the options being used.

Positives

Drawbacks

- Assistants for creating forms, reports, mailing labels, worksheets, Crosstabs, and charts.
- Approach Assistants have a tabbed interface allowing users fast access to object options.
- Fewer Wizards than Access.
- No control or query wizards.
- Catch-up feature.

INFOBOX WITH STYLES & PROPERTIES

Graphical property sheets for objects. More graphical and user friendly than Access's property sheets. Context sensitive in either design or browse mode.

Positives

Drawbacks

- More graphical and user friendly than Access's property sheets.
- Context sensitive in either design or browse mode.

POWERCLICK REPORTWRITER

WYSIWYG report design which shows the user data while designing their reports. Not much depth to the functionality.

Positives

Drawbacks

- WYSIWYG report design which shows the user data while designing their reports.
- Not much depth to the functionality.

USER ASSISTANCE

Help system for users.

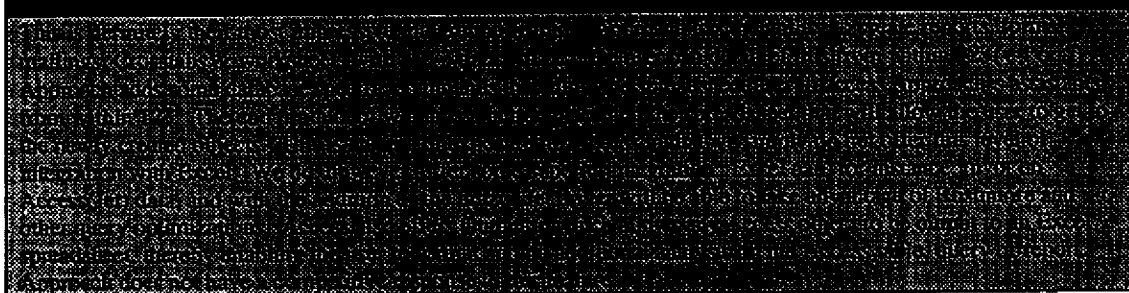
help is substandard. The help is sparse and inadequate and they offer no real competition to Access' Cue Cards. Overall this is a key win for usability in Access.

	Positives	Drawbacks
Tutorial	• Help on common tasks.	• Sparse and inadequate help in comparison to Access' Cue Cards.
Context Sensitive Help	• Usability benefit	• Catch-up feature.

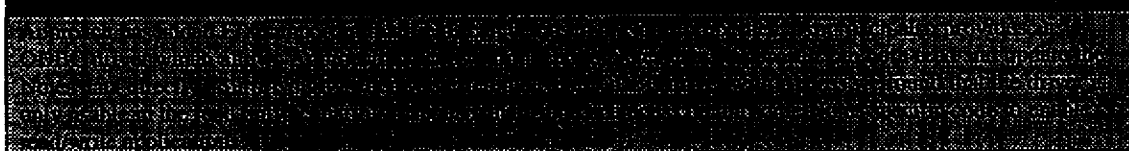
Integration

Approach has done some nice work in this area. They are much more consistent with Smart Suite than their previous version and their 123 integration is currently unmatched in the category, however, overall this area is a clear win for Access and Office. First Approach does not offer any form of integration with AmiPro, which for an end user database is questionable. They really don't compete with the Mail Merge wizard. Additionally Lotus does not handle the basics. The 90% case of integration between a db and other products is still copy and paste. In Approach 3.0 a user cannot filter a worksheet and select a range of data, copy and paste that information into Ami or 123. Realistically the user will need to output this information to a file and then insert it into the desired product. Also, Approach is claiming OLE 2.0 support. They appear to be doing something with OLE 2 in their 123 integration but they do not offer visual editing of any sort, which for an end user db would be the best use of the technology.

LOTUS 1-2-3 INTEGRATION



LOTUS NOTES INTEGRATION



Analysis and horsepower

Huge win for Access. With no programming language and only a primitive scripting language Approach falls far short of their horsepower claims. And while Access 2.0 is not the fastest product, we have nothing to fear from Approach's dismal performance.

CROSTAB VIEW



category, taking their budget work and applying it as databases. With our extensive wizard and superior performance, Access can compete today with this innovative feature.

38 NEW MACRO CAPABILITIES

Several of the new macros are designed to help you create and manage databases more effectively. For example, you can now create a database from a spreadsheet and it does it for you. Access makes it so easy to create a database from a spreadsheet that you can be up and running in minutes. The new macros also make it easier to create and manage databases. For example, you can now create a database from a spreadsheet and it does it for you.

NEW SPEED TECHNOLOGY

The new speed technology makes it easier to create and manage databases. For example, you can now create a database from a spreadsheet and it does it for you. Access makes it so easy to create a database from a spreadsheet that you can be up and running in minutes. The new macros also make it easier to create and manage databases. For example, you can now create a database from a spreadsheet and it does it for you.

Implications for future versions of Access

Where we win

- **Single Solution**

Access is still the only db that can extend from the novice to the developer. Our product is easy to use for an incredibly wide range of users. Approach is still a light weight spreadsheet add-on.

- **Office Integration**

This is a tougher one to sell as Lotus will be making a big deal out of their 123 integration, however when we look at integration as a whole we really take the lead.

Final Observations

Bottom line is Approach has many nice, innovative and compelling features. We have little to fear from the product in a database comparison but in an Office v Smart Suite they really pack a punch with their 123 integration. The product, however, does not feel solid. It feels like it was shipped a couple of months before it was ready and this will hurt Lotus going forward. This shows their inexperience as a db vendor. They likely plan on a maintenance release but will quickly find they have alienated a sizable portion of their IEU's by shipping a buggy product.

PowerPoint 4.0 vs. Freelance 2.1 Comparison

Freelance 2.1 is a minor features release of Lotus's presentation graphics product. Very few modifications were made to the user interface and few significant features were added. Additions include Send Mail, 1-2-3 release 4 import support, and minor Notes enhancements, and some new SmartMaster sets which attempt to answer PowerPoint's AutoContent Wizard. Included is also the Lotus Annotator, which allows you to add an annotation to each slide.

What's new in Freelance 2.1?

New Features

Ease of use

WELCOME SCREEN

Start screen now includes
Notes

NEW SMARTMASTERS

New SmartMasters
to create, copy, paste,
format, and print slides
assisted is provided.

Interoperability

READS 1-2-3 RELEASE 4 FILES

POWERPOINT 3.0 AND OS 2 METAFILE IMPORT

EXPORT TO EPS AND OS 2 METAFILE

Workgroup

NOTES 3.0 PARTNER CAPABILITIES

NOTES PRESENTATION EMBEDDING

presentation.

SEND MAIL

Send Mail with VIM or MSN mail applications.

LOTUS ANNOTATOR

Key marketing messages of Freelance Graphics 2.1

Freelance is sticking with the message they have had since version 1.0 for Windows:

"The fastest, easiest way to a great presentation."

They continue to emphasize ease of use as the most important feature in a presentation graphics product, to the exclusion of all else. Slight changes emerge in their messaging as they begin to talk about small, information presentations, however, this is not developed nor is there any feature support given. Their packaging has shifted to include a section on Working Together and cross sells SmartSuite, mostly based on the strength of 1-2-3. Nowhere is Ami-Pro even mentioned. Since their feature set is almost identical to previous releases, it would be difficult for them to significantly change positioning and messaging since few features could support a shift in messaging.

Freelance's single-minded focus on ease of use leaves a huge opportunity area for PowerPoint. We have started to move away from talking about the presentation creation process and focus in on helping the user with their communication task. As we move more toward meeting support and speaker support, and offer more tools to help suggest and organize content and graphical elements, a clear differentiation between the two products can be made. PowerPoint focuses on the user's communication needs while Freelance focuses on the process of creating a presentation.

Today, PowerPoint provides strengths in these key areas which Freelance has failed to address in this release:

1. User focused communication tools to help our customers with more effective day to day communication tasks.
 - AutoContent Wizard
 - Rehearsal
 - Hidden Slides
 - Presentation tips in Cue Cards
2. Cross Platform solution for Mac/Windows/PowerMac
 - Over 90% of Fortune 200 customers have both platforms
3. Seamless Consistency and Integration
 - Report It/Present It, Insert from Outline, create new presentation from outline, drag and drop.
 - Consistent menus, ToolTips, keyboard shortcuts, toolbars, customizable toolbars...
4. New Technology/Supporting important new standards.
 - OLE 2.0
5. Breadth of functionality
 - WordArt
 - Equation Editor
 - Find File
 - Find/Replace
 - Change Case
 - Periods
 - And more....

Feature comparison by marketing message

Since this is a minor feature release, the strengths and weaknesses have not changed. Their marketing message is centered mostly on easy, but they also talk about great presentations and Working Together.

<i>Evaluation Criteria</i>	<i>Freelance 2.1</i>	<i>PowerPoint 4.0</i>
Ease of use		
Ease of use is one of the most important traits in presentation graphics	The fastest, easiest way to a great presentation. This is Freelance's hallmark, but one which failed to impress the press in the latest comparisons.	PowerPoint's easy and familiar interface lets you get right to work and provides tools to guide you throughout the product.
Factors	Animated tutorial gets you up and running. Short overview followed by interactive modules	PowerPoint's Quick Preview gives an overview of what you can create and how using PowerPoint's tools.
Tips, Help	Tips provide advice and guidance for common tasks, Bubble Help tells what SmartIcons do.	Cue Cards give step by step instructions for common multi-step tasks. ToolTips tell you what the toolbar buttons do. Tip of the Day gives you a new tip each time you launch PowerPoint.
Great Presentations		
Getting the results you want and looking better than the next guy is really important	Freelance helps you create a great looking presentation. Only you know how easy it really was. The focus is on the presentation, not the presenter.	PowerPoint helps you turn your ideas into powerfully convincing presentations that look great and get your point across. Focus includes the communication task, not just the presentation.
Templates	SmartMasters provide design choices-size, position, color, typefaces-that guarantee each page of your presentation looks great.	Templates do the work of creating a polished, professional presentation. You supply the content, PowerPoint ensures it looks great. The Pick a Look
Layouts	SmartMasters provide 11 layouts with simple "click here" instructions	PowerPoint provides 21 AutoLayouts with on-screen instructions to lead you to the next step.
Content Organization and Development	Freelance provides some extended SmartMasters which provide some suggestions for content. No organization help is given	PowerPoint helps you actually create better presentations by giving suggested content and organization for your communication task.
Integration		
	Sometimes your presentation requires Working Together. Tight integration with Lotus 1-2-3 and Notes are important messages.	PowerPoint is a part of Microsoft Office, a family of full-featured products designed to work together like one.
Integration	Lotus's award-winning products share a common look and feel	Products look alike and work alike so you only have to learn things once.

<i>Evaluation Criteria</i>	<i>Freelance 2.1</i>	<i>PowerPoint 4.0</i>
	Emphasis is on integration with 1-2-3 release 4. Freelance cannot import Ami-Pro outlines	PowerPoint can import Word outlines or Excel or 1-2-3 data. You can export your presentation to Word document. Automated tools make this easier than ever.
Workgroup	Lotus is banking heavily on their Notes position, claiming Freelance is the best presentation graphics product to use for Notes. The press is buying it.	PowerPoint has workgroup features that everyone can use, including dual platform support, Viewer, Send Mail, and routing.
Notes support	Standard set of field names can be used to set up a Notes database. Freelance can be launched to slide show directly from Notes.	Standard set of field names can be used to set up a Notes database. PowerPoint can be launched as a slide show directly from Notes.
Send Mail	Freelance is now mail enabled for VIM or MAPI based email packages	PowerPoint has had built in send mail support since version 3.0. In addition, routing allows for sequential or simultaneous review of your presentation.

Implications for future versions of PowerPoint

PowerPoint 4.0 already addresses most of the new functionality in Freelance 2.1. With PowerPoint 95 we will have a chance to pull ahead in critical areas, especially meeting support and assisting our users with their communication task. Freelance is undoubtedly readying a major release for 1995, but until then, PowerPoint 4.0 is fully competitive to this minor Freelance upgrade.

Schedule+ 1.0 vs. Organizer 2.0 Comparison

Organizer 2.0 was announced at Network/Interop and is slated for release in the fourth quarter of 1994. With this release, Lotus is primarily trying to fill the gaps in Organizer's group scheduling capabilities. New features include: multi-user sharing of Organizer files with five levels of access privileges, use of Notes mail for group scheduling, a way for laptop users to merge off-line changes with the server when they return to the network, and a new Calls section for tracking telephone calls.

While this release still does not match the group scheduling capabilities of Schedule+, it will overcome many of the objections that Lotus customers have had with the group scheduling features of the previous version. It is now likely to be factored into corporate purchasing decisions, whereas before it was rejected out of hand. As such, Lotus is likely to rely even more on Organizer as a delighter and demo piece, while touting the PIM features and cc:Mail/Notes integration of version 2.0.

What's new in Organizer 2.0?

Overall, Organizer 2.0 is a significant release, but not a ground-breaking one. The Organizer file structure was completely redone to enable multi-user access and file merging capabilities. Support for the Notes mail transport was added using VIM, but there is no use of the Notes API for exchanging information with Notes databases or tying Organizer into Notes workflow applications. New call logging features provide for more robust contact management capabilities. Finally, minor tweaks were made to each Organizer section to give it more cross-section viewing capabilities and more sizzle.

Top-line improvements include:

- Multi-user access with five levels of access privileges
- Use of Notes mail for group scheduling
- File Merge utility for remote users
- Monthly calendar view
- Ability to book conflicting and overlapping appointments
- Ability to attach files when scheduling a meeting with others
- New "Calls" section for management of incoming and outgoing phone calls
- On-the-fly views across all Organizer sections
- Ability to categorize all entries

Improvements by Organizer section include:

- Calendar -- shared calendar for multiple users, simultaneous access to the same file
- To Do -- repeating tasks; specify completion dates on screen; display tasks by priority, status, date or category
- Address -- home and business address records for each contact; customizable fields
- Calls -- display call entries by name, date, company, category, or status; linked to Address
- Planner -- yearly and quarterly views, overlapping events
- Notepad -- view pages by page number, creation date, alphabetically by title, or by category
- Anniversary -- display by year, month, category or by zodiac sign; set alarms, create links

Key marketing messages of Organizer 2.0

Lotus is sticking to the same positioning points for Organizer that it has always used:

Award-winning PIM. Lotus contends that a group scheduler is only useful if it has enough PIM features to encourage users to keep all of their personal information on-line. (This is to counter the Schedule+ positioning

which says that users will only be compelled to keep their information on-line if they see the productivity gains that are possible with a strong group scheduler.) In reality, Organizer does only moderately well in PIM reviews and the awards they cite are mostly for older and less significant reviews. The addition of their new call-logging capabilities and cross-section viewing capabilities should help their score in future reviews, however

Intuitive, easy-to-use interface. Users are drawn to the Organizer interface and its flashy UI. This makes Organizer a great demo product for Lotus, even though much of its UI is inconsistent with other Lotus apps and many of the flashier features make it difficult to use.

Group scheduling via cc:Mail or Notes. The addition of multi-user access and Notes support gives Lotus a much better story in the group scheduling area, but some key group scheduling capabilities such as delegate acceptance of meeting requests and simple administration are still missing. From an MIS perspective, these deficiencies will create barriers to corporate-wide adoption, but will probably not be enough to halt roll-outs in organizations that are committed to Lotus' workgroup strategy. From a reviews perspective, Organizer is now likely to be cast as a complete group scheduling package.

Integrated part of SmartSuite. Lotus is able to add more value to SmartSuite by tossing Organizer in the box. However, its only ties to the other SmartSuite applications are its use of SmartIcons and mail merge capabilities with Ami Pro.

Feature comparison by marketing message

<i>Evaluation Criteria</i>	<i>Organizer 2.0</i>	<i>Microsoft Schedule+ 1.0</i>
Ease of use	Organizer has an intuitive interface that users like because it is cute and resembles a paper planner. Organizer allows users to keep all of their personal information in one place.	Schedule+ is an intuitive electronic day planner that allows users to realize the productivity gains of on-line group scheduling.
Organization	Calendar, To Do, Address, Calls, Notepad, Planner, Anniversary	Appointment Book, Tasks, Planner
Calendar views	Daily, Weekly, Bi-Weekly, Monthly, Yearly Planner	Daily, Bi-Weekly Planner, Month' Navigator
Award-winning PIM	Organizer stores all your personal information and includes call logging, cross-section views, links and a notepad.	Schedule+ 1.0 is positioned as a group scheduler, not a PIM. (Schedule+ 2.0 will match many of Organizer's PIM features, but will not have the same call logging features.)
Integration	Organizer is integrated with SmartSuite as well as cc:Mail and Notes.	Schedule+ is tightly integrated with Microsoft Mail and easy to administer.
SmartIcons	Organizer shares the SmartIcons of other SmartSuite apps, but has many of its own that are inconsistent with the other apps.	
Mail integration	Uses the cc:Mail and Notes transports and directories. Must be administered separately from the mail system.	Shares the Mail directory and administrative tools. Meeting requests are integrated custom forms that allow

<i>Evaluation Criteria</i>	<i>Organizer 2.0</i>	<i>Microsoft Schedule+ 1.0</i>
	Meeting requests are attachments to mail messages.	the user to book meetings directly from the Mail inbox.
<i>Workgroup</i>		
	Organizer allows you to schedule meetings using cc:Mail or Notes.	Schedule+ is a complete group scheduling package that enables enterprise-wide group scheduling by leveraging the messaging infrastructure.
<i>Programmability</i>		
	No programmability.	Open API that allows activity management applications to be integrated with Schedule+.

Implications for future versions of Office

With Organizer 2.0, Lotus is playing catch-up in the group scheduling area, but this release still does not match the group scheduling capabilities of Schedule+ 1.0. With Schedule+ 2.0, we will extend our lead in the group scheduling area, while matching many of Organizer's PIM features. We will not have the extensive call logging notepad features, or sexy UI that Organizer has, but we will be able to position Schedule+ 2.0 as a more effective time manager that is easier to use and administer on an enterprise-wide basis.