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WHAT'S NEW on this month's Developer CD, *New Hack City?* A volume in *New Inside Macintosh*, a variety of Tech Notes, and an updated ColorSync among other materials.

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IT SHIPPED! LISTS new and updated third-party products that shipped in November 1992.

(News folder)

QUICKTIME 1.5 and QuickTime for Windows are APDA's hot products for January. APDA is also shipping a variety of new Apple and third-party products.

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FOUR NEW APPLE books (and a CD) are now available, the latest volumes in *New Inside Macintosh*, a new *Technical Introduction to the Macintosh*, and revised *Macintosh Human Interface Guidelines*.

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IN THIS MONTH'S Human Interface column, we report the results of the October 1992 "bad dialog box" contest.

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BUSINESS & MARKETING

HOW TO SIZE UP the competition: a market intelligence consultant explains.

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THE DEVELOPER of a personal information management product tells you what he's learned about selling to PowerBook customers.

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MARKET RESEARCH QUARTERLY

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Apple Increases Support for European Developers

Apple Computer Europe recently announced new European Developer Programs, designed to offer improved support for all types of European developers and other third parties and to provide consistent services in all regions. The new programs, which replace all existing European programs on January 1, 1993, are comparable to the U.S. program offerings.

The introduction of these new programs goes hand-in-hand with the newly created Apple Developer Group-Europe, whose focus is to strengthen the quality and success of Macintosh development in Europe. Apple recently announced that the new ADG-Europe organization's first manager will be David Krathwohl, a four-year veteran of ADG.

Apple's goal is to offer consistent delivery of development support and services worldwide. With the introduction of the new European Apple Developer Programs, developers in the United States, Canada, and Europe will now have the opportunity to join programs offering the same high-quality development support and services from Apple.

The new European Apple Developer Programs will be managed by the regional Apple offices. Third parties in the various countries can continue to benefit from local marketing information as well as local developer training courses, special events, and trade show promotions, all of which will help meet the specific needs of third parties in each region.

"Overall, the new European developer support structure offers an improved, higher level of support to Apple's third-party community in Europe," says Jonathan Fader, Developer Business Relations Manager, Apple Computer Europe. "Because we want to ensure that any third party can create great solutions and services for our platforms, it is imperative that we offer a range of support programs to meet their needs."

The new European developer support structure offers three service levels: APDA, the Associates Program, and the Partners Program. APDA, Apple's source for developer tools, continues to offer access to a wide variety of Apple and third-party development tools, resources, and information for anyone interested in developing applications or technical services on Apple platforms. Through APDA, third parties can select and order the individual resources most suitable for their specific needs.

The Associates Program and the Partners Program offer the convenience of preconfigured bundles of services and support. The Associates Program is Apple's mainstream program for developers and other third parties and provides self-help technical support, ongoing product and technical information, access to technical resources and the Apple developer community through AppleLink, and discounts on hardware used for development purposes.

The Partners Program, designed for strategic third parties whose work supports Apple's long-term product directions, provides a closer working relationship between a limited number of third parties and Apple. In addition to all the benefits of the Associates Program, the Partners Program also offers electronic mail access to Apple's Developer Technical Support engineers for answers to specific programming questions.

Along with the new programs, Apple also opened a new developer training facility in London to provide enhanced educational opportunities for European third parties. (Details about the new training facility and a schedule of classes will be provided in an upcoming issue of *Apple Direct*.)

The new programs are open to all European third parties who provide Apple-compatible products and services, including package and in-house developers, systems integrators, distributors, software houses, publishers and republishers, universities, localization companies, and others.

For further information on the new European Apple Developer Programs, third parties in Europe should contact their regional Apple offices. For a complete listing of offices, please refer to AppleLink (path—Developer Support:Selling Into Europe: Welcome & Third-Party Apple Contacts:Apple Third-Party Contacts In Europe). ◆

Search Tools on the Developer CD

Did you know that it's getting easier to search through those "bookshelves" of references and code on the monthly Developer CD series? (This month, the CD is called *New Hack City*; see this folder for highlights.) You might have used the file aliases in the "What's New on This CD?" folder on the CD and the System 7 Find command (or the System 6 Find File desk accessory) as a fast way to locate files by name. But other search tools on the CD—especially those provided within Apple DocViewer and the Developer Info Assistant—give you options for locating content within files on the CD.

Here's an overview of search alternatives currently available on the Developer CD, starting with Apple DocViewer. Before you read any further, we'd suggest that you open up the Developer CD so you can follow along.

APPLE DOCVIEWER

Because you asked for faster on-line documentation access, Apple DocViewer is replacing HyperCard as an on-line documentation application. *New Inside Macintosh* volumes, the *Apple CD-ROM Handbook*, many developer notes, recent issues of *develop*, and many Macintosh Technical Notes are already available in Apple DocViewer format on the latest Developer CD. Additional technical documents will appear on the CD in Apple DocViewer format with each new Developer CD.

Apple DocViewer displays and prints integrated text and graphics, with adjustable page sizing. Its indexing, catalogs, bookmarks, and search features give you a set of tools to help you find the information you need quickly. *The Apple DocViewer User's Guide* on the Developer CD (path—Tools & Apps:Misc. Utilities: Apple DocViewer) provides more detailed instructions on how to use each of its features, but here are some tips to help you get started.

Binding. It's a good idea to first "bind" together the Apple DocViewer-formatted references you use frequently. Documents that you bind to your copy of Apple DocViewer automatically appear in the DocViewer Catalog when you open the application. You can also set bookmarks in bound documents and search the bound documents globally when you use the Query feature to find a topic. Documents aren't prebound on the CD, because it's more efficient for you to

bind just the documents you use frequently. To bind a document, you simply open an Apple DocViewer file and choose Bind Document from the File menu.

Once the documents are bound, they open automatically whenever you start up Apple DocViewer. If you don't want them to open every time, hold down the Shift key immediately after starting the application.

The Catalog. Using the Open Catalog command (Command-L) in the Apple DocViewer Outlines menu displays the catalog; the catalog uses a colored book icon for each bound document and a clear book icon for each unbound-but-open document. It includes document chapter and section headings, nested as deeply as you've indicated in the Catalog Level dialog box. Click the triangle next to each topic to get a list of its associated subtopics. View the entire hierarchy of files by pressing the Option key while clicking the pointer.

Apple DocViewer's Catalog can be used for locating topics quickly by typing a string in its Filter text field and clicking the Apply button. For example, to find information about the low-level HFS calls in *Inside Macintosh: Files* (called *IM-Files* in the DocViewer) type low-level HFS and click the Apply button, as shown in Figure 1. When you double-click a line in the Catalog, Apple DocViewer displays the section of the document with the information you're looking for; the section containing the information is underlined, if you're viewing the entire file hierarchy.

The Book Index. The Open Book Index command (Command-I), also found in the Outlines menu, can be used to browse topics and locate information about topics in an active document. As with the Catalog, if you click the triangle next to each letter or string in the Book Index, a subindex list is displayed. By typing a string in the Index Filter text field, you can locate a topic quickly within an active document's index, as Figure 2 shows.

Using Bookmarks. Bookmarks are handy for quickly getting to reference material you use often. For example, you can set bookmarks for File Manager data structures by highlighting the name of each data structure in the text and selecting Set Bookmark (Command-M) in the Bookmark menu. Each data structure then appears in the Bookmarks list. To go immediately to the data

structure in the IM-Files text, you click and drag down the Bookmarks list to the data structure you want to find.

Searching Through an Active Document. Apple DocViewer's Search menu provides two options for searching document content: Find and Query. Find searches through an active document for a word or literal string entered in its text field, matching uppercase and lowercase characters if you select Case Sensitive. Find also lets you specify the direction of the search and whether you want to search the whole document (Wrap-Around Search). Find Again (Command-G) in the Search menu locates the next occurrence of your selection. Command-Shift-G finds again in the reverse direction.

Searching Beyond an Active Document. You can search beyond an active document by using Apple DocViewer's Query command, as shown in Figure 3.

Query lets you search for topics in only an active document, all the documents shown in the Catalog, or all opened documents. If you choose All Documents in Catalog, Apple DocViewer searches both bound and unbound documents.

Query shows you a list of documents that contain your search string, along with the number of occurrences in each document. Click the triangle next to each citation in the list to learn precisely where the search string was found within the document. If you select the Show Context box, you'll also see a line showing several words surrounding your search string. Clicking on one of the lines in the Query list takes you to the place in the document you want to see. Next Occurrence (Command-U) in the Search menu takes you to the next occurrence of the search string; Command-Shift-U returns you to the previous occurrence.

With More Options selected (Figure 4), if you want to know why PBGetCatInfo isn't working with ioNamePtr set to NIL, for example, you can ask for occurrences of PBGetCatInfo in the same section as ioNamePtr within 100 words of NIL. In this example, the Query command returned a list including a Q&A explaining the PBGetCatInfo problem.

Query requires that .idx (search index) files be in the same folder as the Apple DocViewer files you're using.

OTHER

SEARCH TOOLS

Developer Info Assistant. The Developer Info Assistant (DIA) is more than a HyperCard template for sending a question to the Developer Support Center. The DIA stack now has a facility for performing global searches by topic through technical stacks on the CD. It now searches SplInside Macintosh; *Inside Macintosh*, Volume VI; Macintosh Technical Notes; *Worldwide Development Guide to System Software*; *Guide to Software Localization*; Contents Catalog; and the *develop* stacks. (The DIA will become less useful for searches in the future, as more documents are converted from HyperCard to Apple DocViewer format.)

To use the search facility, click the Search button on card 1 of the DIA, as shown in Figure 5.

Contents Catalog. The Contents Catalog is a HyperCard stack designed to help you browse or search for content on the Developer CD without traversing folders. Each card in the stack contains a title, pathname, description, and contents list for a package on the CD. Updated for each CD release, the Contents Catalog identifies new and updated packages with asterisks so you can spot new material easily.

On Location. On Location by ON Technology is another tool for quickly locating topics on a volume as long as the volume is indexed for On Location. The application does not ship on the Developer CD, but each CD is indexed for On Location users. On Location is available from Macintosh software dealers.

AS USUAL:

FEEDBACK, PLEASE

The information, tools, and organization of the Developer CD Series reflect your past suggestions. Please continue sending your feedback to DEV.CD—what works and what could work better, new CD content needs, tools ideas, and third-party development products you like. The effectiveness of forthcoming releases depends on comments from you about your development experience using the current Developer CD. ◆

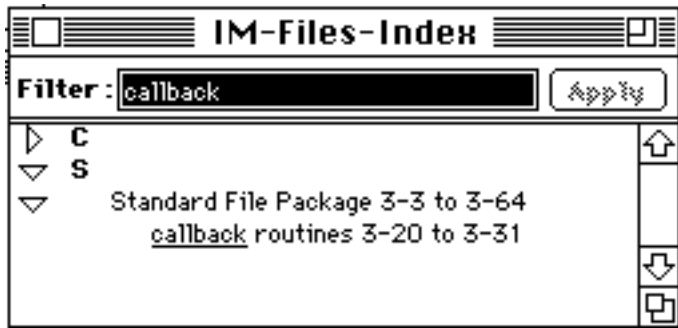


Figure 1: The Apple DocViewer Catalog

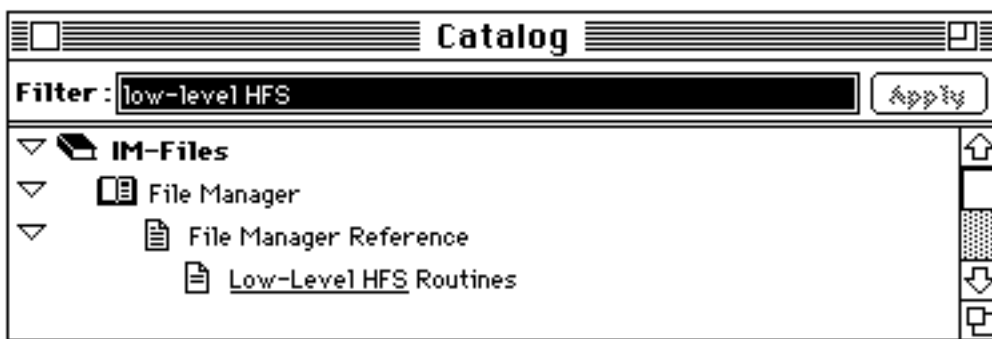


Figure 2: Using the Book Index

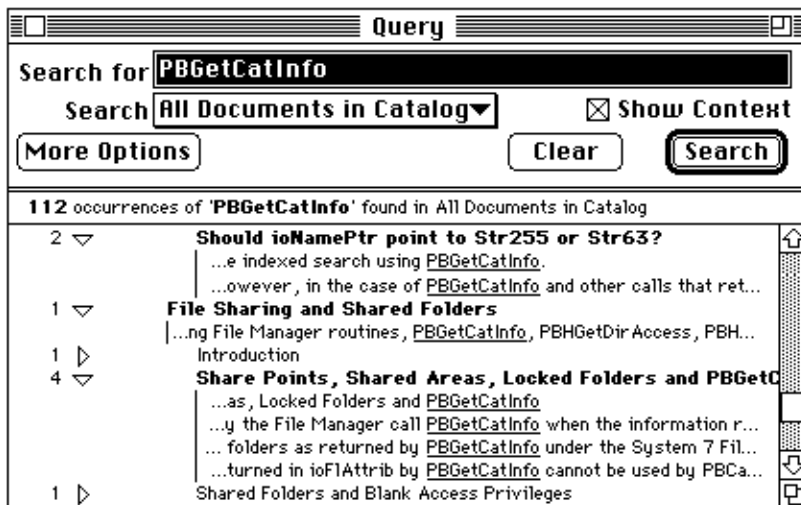


Figure 3: The Query dialog box

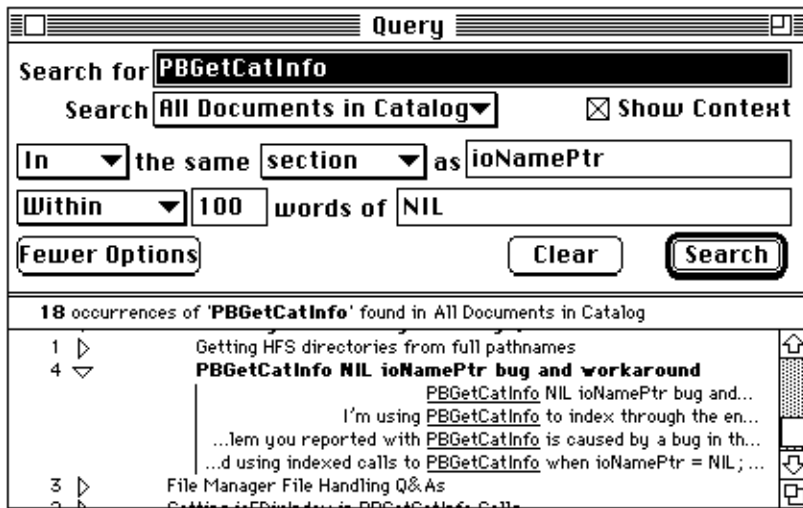


Figure 4: More Options in the Query dialog box

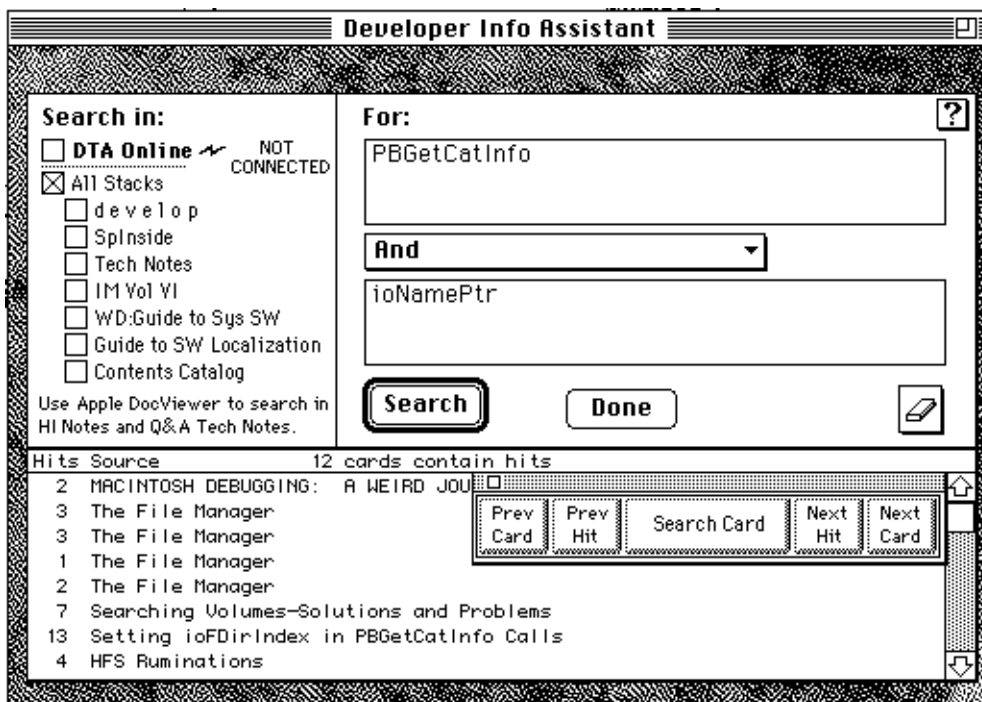


Figure 5: Card 1 of the Developer Information Assistant

AppleScript Beta CD in Developer Mailing

The AppleScript team is pleased to present the AppleScript beta CD as part of this month's developer mailing.

AppleScript is an integrated scripting system for personal computers. Using the power of Apple events, AppleScript allows users to write intelligent scripts to control their Macintosh systems and applications.

When you support AppleScript, your customers will be able to automate your programs to perform common tasks. For example, an electronic-mail program could be scripted to log onto a company's host system and download incoming mail on a regular basis.

Customers will also be able to combine your products with other AppleScript-savvy applications to create powerful custom solutions. This means that you'll be able to write smaller, more targeted applications focusing on the capabilities you know best instead of trying to develop "do-everything" programs.

On the CD, we've included sample code, documentation, and tools to help you integrate AppleScript in your applications. Take a look at the AppleScript Interactive Datasheet found in the Open Me First folder. You'll find an overview and demos of AppleScript in action as well as some suggestions for how you might take advantage of the new technology.

We'd appreciate your feedback about AppleScript. Please send us your comments by AppleLink to APPLESCRIPT. ◆

The New Frontier

Personal Computing in Eastern Europe

By David Gleason

Prague, Czechoslovakia—On Evropská Street in this beautiful medieval city, you're struck by the sight of a trolley bus trundling down the road in a new coat of bright purple paint and plastered with Western-style advertising. But you are really surprised when you notice that the sign on the bus is a bright, six-color, four-foot-high Apple Computer logo advertising TIS, Apple's official distributor in Czechoslovakia.

The Macintosh computer has come to Eastern Europe, but Apple is not alone here. In Prague, representatives of many of the leading personal computer vendors and software suppliers met in October for the third annual East-West High-Tech Forum, hosted by industry analyst Esther Dyson. For three days, Western suppliers met with Eastern-European resellers, integrators, and entrepreneurs to better understand the business implications of the remarkable political and economic changes in this part of the world. They also discussed what the booming personal computer industry here is doing to help bring these countries into the modern age of technology and communication. Most of all, they met to do business.

This annual forum, which always takes place in a major city in Eastern Europe, provides an opportunity for high-tech businesspeople, East and West, to meet and exchange stories and perceptions and to get a "reality check" on what is happening with others.

The title of this year's forum was "Making Markets Work," and the emphasis was on learning from the experience of foreign and local computer companies that have created the tremendous growth of this market in barely three years. There has long been a computer market in this area, but today's dynamic, entrepreneurial market and its practitioners virtually rose from the dust of the Berlin wall's collapse in November 1989 and the ensuing fall of communism throughout the region. In Eastern Europe today, "change the world" is not a marketing slogan, but a way of life.

Apple Computer was in attendance here, one of 165 attendees that included Western computer manufacturers Hewlett-Packard, Digital Equipment, Compaq, Silicon Graphics, and Dell; software vendors Borland, Microsoft, Oracle, Informix,

Lotus, Ingres, Autodesk, Corel, and Sybase; and U.S. and European distributors Merisel, Ingram Micro, ComputerLand, and Computer 2000. They were joined by their new partners from the Eastern European countries of Poland, Czechoslovakia, Hungary, Bulgaria, and Slovenia, as well as former USSR republics, which are now associated as the Commonwealth of Independent States (CIS), represented here by Russia and the Ukraine, and the Baltic states Estonia and Lithuania. Entrepreneurial companies such as Intermicro (Russia), PragoData (Czechoslovakia), Lighthouse (Slovenia), and Montana (Hungary) are the new, independent, and aggressive startups that are building the computer industry in this promising but struggling part of the world.

They came to discuss opportunities and problems in an as-yet-undefined market that's rich with technical talent and potential and hungry for products. It's a market that offers many opportunities for the aggressive, insightful, and innovative Western firm, and sometimes opportunities come in unexpected ways.

Consider, for example, how Dell Computer landed the sale of 4000 personal computers: the Czech Komerčni Bank dutifully returned a "bingo" card—the marketing questionnaire that comes with many computer magazines, asking about the reader's organization, and whether the reader expects to purchase any personal computers. The bank said on the card that it was indeed in the market for 4000 PCs. Dell was notified by the magazine, followed through, and got the sale, and that became the basis for Dell's opening a subsidiary in Czechoslovakia last spring.

On the other hand, this market is also rife with roadblocks. Some of the problems here are familiar to those who helped create the PC industry in the United States and Europe over the past 15 years, such as widespread software piracy. But other hurdles are new and unlike what anyone has ever seen before—for example, Western firms spoke of employee training costs that are several times higher than an employee's salary.

The issues that were raised as the most pressing for manufacturers, software developers and resellers included the following:

- achieving competitive pricing and providing affordable software
- increasing brand-name recognition in the marketplace
- reducing software piracy
- evaluating the strengths and weaknesses of the Eastern European workforce
- managing the high cost of training

- evolving appropriate information technology strategies
- developing applications for the local markets

In a series of presentations and open discussions, Dyson guided the audience through the major themes of success and failure, market analysis, sales, open systems, problems of piracy and gray marketing, and working with Eastern-European employees and managers who are unaccustomed to the profit motive.

LEARNING FROM THE GROUND UP

With the collapse of Communist governments in Eastern Europe and the former Soviet Union, the world was shocked to discover the dismal state of national economies in these countries. Despite heavy state investment throughout the Cold War period, many large, state-owned enterprises are inefficient and bordering on bankruptcy. Privatization is acknowledged as the solution to rebuilding the economy through foreign investment, but who wants to buy an inefficient, worn-out factory with a poorly trained workforce? What is needed instead is for many foreign investors to invest in small businesses, which may hold the key to reviving the long-suppressed private sector. In Poland, for example, news reports claim that 90 percent of all retail stores have been privatized in less than three years, and that sector is expanding rapidly, because it delivers the goods and services that Polish customers want.

This situation poses both an opportunity and a problem for Western computer manufacturers and software vendors: the demand is there, but how does one make high-quality Western products affordable? In the past two years, customers around the world have been aided by the intense personal computer price wars that have caused hardware prices to plummet worldwide. Software, too, has become increasingly less expensive, but in Eastern Europe, companies still have great difficulty raising capital for anything. People generally get started here through a process of bootstrapping a small business into existence by scraping together startup money; once the company begins to generate revenue, it has a fighting chance to stay alive if it can offer the merchandise and service that the market currently demands. But purchasing expensive computer equipment and software is still a major concern. And it leads, inevitably, to the temptation to buy at the lowest possible cost on the gray market.

EASTERN EUROPE: COMPUTER SALES ARE UP

In many ways, the experience of Eastern European PC sellers is a déjà vu of the personal computer industry experiences of the past ten years. In the late 1980s, when personal computers were first brought into Eastern Europe in significant numbers, the most popular models were inexpensive PC clones, often manufactured in Asia. The trend in 1992, according to seminar participants, is for a different kind of product: higher quality, with better service and support, and, increasingly, with brand-name appeal. Experience is teaching customers that gray market products may be cheaper, but they lack adequate service or support and are generally less reliable.

As the market realizes the drawbacks of cheap clones, customers increasingly are demanding the kind of quality and service that come with brand name products. This is forcing Eastern European resellers to move from simply reselling hardware into value-added reselling, with greater emphasis on system integration, customer training, and quality.

Customers are finding that cheap hardware and pirated software are only useful in the hands of those who understand computers and who have the necessary time and personnel to manage, operate, and fix them—and most customers don't. Thus, they see that much of their precious investment has been going to waste. That's why some customers are turning to value-added resellers to provide them with more complete solutions—even at higher cost—as an alternative to the cheap, partial solutions that need expensive add-ons and support later.

Many vendors who have perceived these new customer needs and moved to meet them are finding considerable success in Czechoslovakia, Hungary, and Poland—by the end of last year, the installed base in each country had grown to about 250,000 personal computers (all brands included). Actual sales for 1991–92 are far ahead of projections, generally with evidence of more growth in sight. In Czechoslovakia alone, the revenues from PC sales for 1992 may reach \$200 million. Prague-based APP Systems, a market-focused systems integrator founded in 1989, explained to the audience that it did \$6.8 million in sales in 1991, and expects to do \$25 million in 1992.

THE CIS: NOT SO FAST

The former Soviet Union is a different market, much larger, more diverse, and more difficult to analyze. In part, this is because the country is so much more complex ethnically, politically and economically than its Eastern European neighbors—instead of having one major ethnic group and three or four minority groups, as in the other countries, Russia is home to almost 100 distinct nationalities. In addition, Russia and the other CIS republics have not moved as quickly to a market economy as Hungary, Poland, or Czechoslovakia, so businesses there are still constrained by Communist-era policies.

Estimates are that, within the former Soviet Union, roughly 1 million PCs are currently installed. Unlike the Eastern European countries, the projections for 1992 hardware sales in Russia and the other CIS states are lower than 1991 sales. On the other hand, the dollar volume of sales of localized software from Western software vendors has reportedly increased—as much as eight times in some recent news reports—probably because purchasers are paying with rubles, the official Russian currency. With inflation raging at 1,000 percent and higher, the Russian ruble begins losing value as soon as it is printed. Only freely exchangeable currencies—the “hard currencies”—maintain their value, and are thus much more desirable as a medium of exchange.

Despite these problems, Western firms see the CIS states as possibly the world’s largest untapped market, with current potential demand for as many as 20 million personal computers. Companies such as Borland and Microsoft have responded to the demands of this market by opening subsidiaries, selling their products for rubles, and, in some cases, hiring local managers. Some Western companies have begun developing software with local talent. See “Changes in Russia Open Macintosh Market” on page 5 for information on developments relating to computer and software sales in Russia.

The CIS thus offers a greater potential market, but that market is fraught with greater problems than in the Eastern European states. In Russia and the other CIS republics, businesses have constant problems with fluctuating currency conversion rates, political instability, the lack of market-favorable government economic policies, and an unawareness of product qualities and differentiation on the part of many customers. Many businesses, enterprises, and government organizations there simply don’t yet know how to do business in today’s global market. In the process of learning, they often make costly mistakes, and they

don't have financial reserves to repair the damage. In such a climate, when people do manage to buy computers, they have to get by with what they've got for a long time.

THE SOFTWARE PIRACY BLUES

Software piracy is a problem worldwide, but it is a particularly nagging problem in countries where the former Soviet-bloc governments refused to cooperate with the rest of the world on issues of copyright law and enforcement. The good news is that copyright protection has been legislated in all these countries, and greater protection is coming, but the scope of the problem in Eastern Europe is mind-boggling: Database provider Oracle Corporation reports some 10,000 illegal users on the Digital Equipment Corporation's VAX™ platform alone. In personal computers, the numbers aren't as large, but they are comparable: Some resellers claim 90 percent of their users own only pirated software.

A spokesperson for Microsoft in Russia mentioned a concept that would be an oxymoron anywhere else: In Russia, he said, "We want to gain 'market share of our installed base'"—meaning Microsoft hopes to convert illegal users into legal users as rapidly as possible. The installed base is valuable because it is the only group of users in the country who are knowledgeable about the products and their value.

To win over the pirates, many software vendors rely on an "amnesty program" that offers users an upgrade to the latest version with documentation and full support, for a price lower than the market cost of the product if purchased new. Many software houses, such as Microsoft and Symantec, testified to the success of their amnesty programs, but others, such as Borland, complained that too lengthy an amnesty period encouraged users to go out and obtain additional pirated programs in order to qualify for the software upgrades at reduced prices! The timing and pricing of such a program must be calculated carefully and accurately. It's a matter of determining the relative value of market share versus profits, and of price points, which requires a combination of business skill and experience in these particular markets.

TRAINING THE WORK FORCE

The former Soviet bloc may appear a “promised land” for many Western employers, because of its wealth of highly educated, underpaid skilled workers. Some estimates indicate that more than half the world’s engineers live and work between the borders of Germany to the west and China to the south. Since the fall of communism, the search has been ongoing for Western firms to create partnerships to make use of the region’s engineering talent that works hard at low cost. A noteworthy example is Sun Microsystems’ software development partnership with the Kurchatov Institute of Atomic Energy in Moscow.

During the forum, several firms active in this region portrayed a much broader and more complex picture regarding the work force. Yes, the wages are low, but there are many hidden costs: Some Western companies testified to the cost of training workers in Eastern Europe running \$10,000– 14,000 per employee per year. These figures are in many cases several times higher than wages. The reasons for such hidden costs are many: Employees don’t know Western accounting and other standard business practices; they don’t have appropriate project management know-how; and they lack company-specific expertise, as well as a sense for Western-style “corporate culture.” A spokesperson for Hewlett-Packard mentioned that he looks first for employees who fit the company’s profile in terms of personality.

Additional costs are incurred by simply trying to do business: Tax rates are high, and government regulations are still unfriendly to business. Other costs are incurred due to the poor state of the national infrastructures, especially the poor telecommunications and transportation systems.

For example, because of the shortage of international phone lines in Russia, and the inefficiency of the ancient (circa 1930) central telephone switching system in Moscow, a simple task like making an international phone call is either very time consuming or extremely expensive. This situation is common throughout the former Soviet bloc, and although new equipment is being purchased and installed, the efficiency of the communications infrastructure lags far behind most of Western Europe, and will continue to lag for some time.

Shipping goods into the country is also expensive, and valuable items like computers are often stolen or damaged before they reach their destination. Finally, the awareness of business ethics and the rewards for hard work are not usually shared throughout these societies.

But in general, Western representatives spoke highly of the dedication, competence, and discipline of their Eastern European coworkers. The Eastern

European participants spoke with respect for their Western partners and appreciation for the business and marketing skills that they impart. Eduard Mika, vice-president of the Czechoslovak systems integrator APP Systems testified, "We need to hire Westerners to transfer know-how." Mika explained that there are many good programmers in Czechoslovakia, but it is difficult to find competent sales representatives, or computer analysts who know very much about business.

DEVELOPING

LOCAL SOFTWARE

With the tremendous engineering and programming talent that sits latent in Eastern Europe and the CIS, software development could be the greatest opportunity in this region for Western developers and their Eastern European partners who are creative in finding solutions to the problems listed earlier.

At the forum, several software development firms gave presentations of locally produced software: a flexible hypertext program called Sempro, developed by Hintech (Moscow); the leading Czechoslovak word processor, Text602, created by Software602; and several products from the Russian firm Steepler, including scalable Cyrillic fonts (for printing text in languages such as Russian, Ukrainian and Bulgarian); Spider, a Russian spreadsheet; and FaxLine, an extensive fax utility program.

All these products are for sale in the local currencies, and they sell well: Steepler, who did \$2 million in sales last year, is expecting revenues of \$25 million in 1992, both from its software sales and also from hardware reselling deals with Western partners.

The Russian-American company ParaGraph did not participate in this year's event, despite being the "star" of the 1990 East-West High-Tech Forum. Paragraph is an example of a Russian software developer that has been able to provide valuable, complementary expertise to Western firms, including Apple Computer and others, most notably by licensing its handwriting recognition software.

The opportunities clearly are there; it remains for the most innovative and creative Western developers to seek out and find Eastern-European partners and build relationships, on a basis of trust and understanding, that will be profitable for the partners as well as the customers of these countries.

There is an awareness in Eastern Europe today that deserves some comparison with the rise of the personal computer industry in the United States ten years ago—a sense that the large, cumbersome state enterprises can no longer provide society with the economic growth and flexibility needed to compete in a global marketplace. Like the original PC industry, the Eastern European market will prosper through the efforts of small, organized, focused entrepreneurial groups of friends and partners who band together to create new and exciting products suited for their own markets.

Large international firms will benefit through the sales of their products, but the real drive will come from the local talent. Success for Western companies in Eastern Europe will come in the form of partnerships with these small, local organizations that are working to bring new solutions and new products to societies that are starved for them.

The opportunities are considerable for anyone patient and willing to learn how to succeed here. Whether or not they wear the same styles of clothing or speak flawless English, these are dynamic and talented engineers and business people, they are hungry for achievement and are often ready to go to greater lengths to succeed than their Western counterparts. They cherish many of the opportunities that we in the West tend to take for granted.

Andrey Zotov, vice president of Borland Russia, one day wore a T-shirt that read, “Barbarians Not Bureaucrats!” He could have borrowed it from an early Macintosh programmer.

To Learn More

For more information on opportunities with Apple in Eastern Europe and the CIS republics, contact Apple Computer Europe’s third-party marketing manager, Alain Piette, at AppleLink address PIETTE.

To help meet the requirements for current information on the computer industry and business in Eastern Europe, Esther Dyson publishes a quarterly newsletter of emerging computer markets in Central and Eastern Europe and the CIS, titled *Rel-EAST*, which is a spinoff of her monthly journal, *Release 1.0*, which covers emerging technologies in the West. *Rel-EAST* was founded just two years ago, and has become a major source for information on the computer industry in all of Eastern Europe and the CIS.

For more information on Esther Dyson’s newsletters and forums, contact her at EDventure Holdings, 375 Park Avenue, New York, NY 10152; phone (212) 758-

3434; fax (212) 832-1720; AppleLink: Release

1.0. ◆

David Gleason is director of business development for Glav PC, a high-tech consulting firm in Berkeley, CA. He was localization manager for Apple Computer in the former USSR.

Changes in Russia Open Macintosh Market

During the East-West High-Tech Forum, three announcements were made that were directly relevant to the opportunities and the likelihood of success for Apple Computer and its third-party partners in the former Soviet Union, now reorganized as the Commonwealth of Independent States (CIS). Together, these announcements indicate an opening of the market to new products and opportunities, as well as increased incentives for developers to make their products available to Russian and other CIS users.

Apple Appoints Two New IMCs. Apple Computer Europe recently announced two new distributors in the CIS. In Russia and several other former Soviet republics, a new company called RUI will represent Apple as its Independent Marketing Company (IMC). A separate IMC, Carpe Diem Ventures, Ltd. (CDV), also a new company, has been appointed to represent Apple in the Ukraine, which is now an independent nation for the first time since 1918.

Until recently, Apple was represented in the CIS by Intermicro, an IMC with offices in several CIS republics. Intermicro will now focus its efforts as a value-added reseller (VAR) for Apple products. Both RUI and CDV Ltd. will build on and expand the dealer network that was begun under Intermicro.

RUI is managed by James Guidi, president of TIS, Apple's IMC in Czechoslovakia. RUI will handle Apple's distribution in the former Soviet republics of Russia, Belarus, Lithuania, Latvia, Armenia, and Georgia. Under Guidi, TIS has grown from its beginning in 1990 to an estimated \$9 million in sales for 1992. Last year, TIS was named the "Most Successful European IMC"

by Apple Computer Europe. Guidi told the forum that he has managed to put the Macintosh on the map in Czechoslovakia by focusing on publishing markets, including two major newspapers, the government ministries of culture and industry, and schools. He intends to focus on those markets in Russia as well, but will expand the market base quickly. RUI is already established in Russia with a network of 18 Apple dealers, new offices in downtown Moscow, and a staff of Americans and Russians.

Steve Minsky, former sales and marketing director for TIS, is the general manager and principal owner of CDV Ltd. The recent establishment of the Ukraine as an independent country has increased demand for use of the Ukrainian language, which until recently was taught in only 20 percent of all secondary schools in the Ukraine. Now, Ukrainian is being taught in 80 percent of the schools, and for the first time, the government has required that Ukrainian be used in all official business, documentation, and parliamentary procedure. This change will create considerable demand for localized systems and applications in a country of 52 million citizens, highly industrialized and rich in resources. Minsky plans to emphasize major market segments in the Ukraine, including government, education, business, and large accounts.

Microsoft Announces New Subsidiaries. At the forum, Microsoft announced the imminent opening of subsidiaries in four areas, including Poland, Czechoslovakia, and the CIS; a subsidiary in Hungary is to follow in the spring. The establishment of these subsidiaries will assist Microsoft in its push for expanded sales and market share in these countries in the coming years.

As the world's largest personal computer software company, Microsoft's announcement guarantees increased interest in the CIS countries on the part of other foreign software companies. It joins competitors such as Borland who already have subsidiaries in the CIS; these companies offer the CIS market not only software applications for sale in rubles, but also development languages and programming environments that will assist Russian developers in creating their own software applications.

In the past, Microsoft has been represented in the former Soviet Union by a number of partners and joint ventures, so this announcement is clearly the sign of a higher level of commitment by Microsoft to the CIS market. Microsoft's announcement also sends a message to the Russian and other CIS developer communities that Microsoft is taking them seriously as a market.

Spokespersons at the forum pointed out that Microsoft does not expect to be profitable in the CIS in the short run, but intends primarily to build a presence, and will assist its dealers in becoming profitable.

Russia Passes Law on Copyright Protection. A significant announcement was made by Irina Savelyeva, a lawyer from the Russian firm Lex International, regarding the new copyright protection legislation that has been signed in Russia to reduce software piracy. In October, Russian President Boris Yeltsin signed a law to redefine and strengthen copyright and database protection. Savelyeva, a lawyer who has worked closely with the Russian parliament, and has lived and worked for a law firm in Washington, D.C., is considered a leading expert in Russia on copyright legislation.

The new Russian ruling conforms to the “general principles” of copyright and is based on the European Directive of Software Protection, which specifies that any software, regardless of its nature, is protected, both source code and object code.

This new law is significant because, until recently, Russian legislation only protected the “right of integrity” of a product, which defines copyright as a moral right that cannot be transferred, even with the death of the creator. The original law was intended to protect artistic works, such as poetry. Now, copyright is more widely defined as an economic right, and transfer is legal. For the first time, this law provides software developers with a method for transferring ownership through sale or other means. In terms of protection, the new law specifies, for the first time, that confiscation of pirated material may be requested by a court.

There are limitations to this law, including the fact that non-profit and government organizations are exempt until 1994. But overall, the message is that the Russian government is now prepared to respect and protect intellectual property.

According to some attendees, these steps will stop commercial piracy in Russia in 90 percent of the most common cases. No doubt, end-user piracy will remain a problem, despite the fact that it is forbidden under this new legislation; but rather than enforce compliance through additional legislation, it was suggested that the software suppliers can best deal with end-user piracy through amnesty programs and better pricing schemes.

For software developers, this ruling indicates, for the first time, the Russian government's willingness to deal with the problem of software piracy. While it does not yet guarantee complete protection, it is a significant first step in providing protection for companies that suffer loss through illegal duplication of their products.

Savelyeva indicated that this was only the first step in a series of planned legal innovations to protect copyright. She reminded forum participants that the current Russian government is not yet a year old, and that reforms are taking place at a rapid rate. ◆

Newton Update

Apple CEO John Sculley announced Newton, the technology for Apple's first line of personal digital assistants (PDAs), with great fanfare at last summer's Consumer Electronics Show (CES). Since then, there's been little news about Newton, which Apple plans to ship in its first PDA product in the first half of 1993.

Recently, *Apple Direct* staff met with Alex Knight, the member of the Newton team responsible for working with developers on "add-in" products for Newton. We interviewed him about a number of areas of interest to developers, and he gave us a great deal of interesting and useful information about how Apple is encouraging development for the Newton platform.

What follows are selections from our interview with Alex, divided into key areas of interest.

***Apple Direct* (AD): Your job title is Manager of Add-In Software. What does *add-in software* mean?**

Alex Knight (AK): Anything that goes into a Newton device that isn't already installed and isn't hardware is what we call *add-in software*. This could be both things that look like applications to users or things that look like content.

AD: What will Apple be doing to foster the add-in business?

AK: First, we're spending a great deal of time building new tools that will make it extremely easy to develop products for the Newton platform. These will be high-level layout tools and rich object component libraries that make it easy for developers to get products out quickly, inexpensively, and reliably. Developers will be able to use their expertise to add unique value to products, rather than spending a lot of time reinventing code that has been used all over the place.

Also, we're building a suite of tools rather than just one particular tool. Our goal is to build tools that are designed to deliver different kinds of software to help developers take advantage of different kinds of opportunities.

AD: On what kind of platform will development take place?

AK: You'll be able to develop the software on a Macintosh and, eventually, other platforms, as well.

DEVELOPMENT OPPORTUNITIES AND HOW APPLE IS HELPING

AD: Is Apple encouraging third-party development?

AK: Yes, absolutely. We're looking for development in a wide variety of areas. We're sure that, while Apple can come up with great ideas, the development community will contribute ideas to Newton that we never even dreamed of or didn't think were possible.

Right now, we're talking about three general areas. One is the area of content. We've seen tremendous interest from users who have tested these products as content viewers. Maps are an example of content, Newton could also conceivably be used for travel guides, tables for a particular type of business (such as mortgage tables for realtors), restaurant listings, English-to-foreign-language dictionaries, things like that. We also envision more vertically oriented information, such as company profiles for a particular sales tool.

Second, we're focusing on developers who use high-level construction tools to build interesting applications that look somewhat like forms. These applications will let users view the Newton information architecture to access information in new ways. One specific example might be a checkbook register. Checkbook registers will be a form, but, in reality, most people don't see them that way.

The third area we're emphasizing is communications. A great many kinds of devices can be added or connected to Newton. There's already a tremendous amount of interest in using Newton in paging networks, cellular networks, or digital cellular networks. So we're encouraging development in wireless communications to get Newton connected to the outside world. For example, we've announced a relationship with Motorola in this area.

What we're not encouraging is the cloning of existing Macintosh desktop applications that don't make sense in the PDA environment. Imagine your favorite desktop publishing application on a screen that's 4 inches by 4 inches—it probably doesn't make sense.

AD: What is Apple doing now to encourage development?

AK: First, we're making basic information on the Newton vision broadly available through the Newton Develop Information Program, which developers can take part in by sending an AppleLink message to NEWTON.DEVS. We'll use that program to release more information over time.

Also, we're working with a small number of developers to help them build initial products and bring those to market. As we get closer to shipping products, we'll be making tools broadly available so that people can do development. We're also spending a great deal of time influencing and building infrastructures so that it's much easier to get a Newton product to customers.

AD: Apple developers are used to a certain way of doing business. We've heard that the Newton business will be quite different. Can you comment on that?

AK: Sure. The world of PDAs will be substantially different from the desktop computer business because it's aimed at a wider variety and different kinds of customers with very different usage models. We expect that a lot of customers who buy PDAs would never think of themselves as buying computers, even though what they have in a PDA is a very sophisticated computing device. It will be sold through new kinds of channels in addition to the traditional electronics channels, and the software may look very different. It may be on a completely different business model—for instance, it may be available on a subscription basis. Newton software might even be the sort of thing you use once and then throw away.

A user might have a subscription to a crossword puzzle service that delivers a new crossword puzzle every day. Once you've filled in the crossword puzzle, you'd want to get rid of it. That's one kind of software we expect will be very popular for PDAs.

NEWTON DESCRIBED

AD: Perhaps you could describe Newton for those who aren't familiar with it.

AK: It's important to understand that Newton is a technology base from which we will build a family of products. Newton is part of the Personal Interactive Electronics (PIE) division, a relatively new division formed about a year ago. With PIE, Apple is focusing on opportunities at the convergence of the consumer electronics, computer, communications, entertainment, and publishing businesses, a convergence that John Sculley has talked about quite a bit in the press and presentations. It focuses on using some of Apple's fundamental strengths—interface design and integration of hardware and software—in new ways to reach even more people than we currently reach

with personal computers. In the case of Newton, we'll be using our capabilities to build portable devices—personal digital assistants—for capturing, organizing, and communicating information.

AD: What are people going to do with these devices?

AK: Newton devices will end up taking the information we usually scribble on sticky notes, business cards, and scraps of paper and organizing it in one place so people can keep track of their lives better. In addition to organizing personal information, they will also add information, communications, and capabilities from other sources. For instance, an example that a lot of people have been talking about is maps. I know I'm going to be in New York next week; I know I'm interested in Italian restaurants. I want a map of New York with Italian restaurants on it so I can find a place near my hotel. One day, such a map could be loaded into a Newton device and read by the user.

One of the things we did in conceiving of Newton was to look at how people live their lives—how they were using existing technology and how they weren't. We found that people use personal computers for producing documents or finished materials, such as presentations and big spreadsheet or word processing documents. They aren't using them very much for spontaneous capture of ideas and information, which is where Newton comes in.

Some important things happen spur-of-the-moment when you're away from your computer (and can't just flip open your PowerBook). You may be in your office, in your car, in a meeting, or just walking down the hall and you bump into somebody and want to write down their address or you have an idea that just won't wait. With Newton, there will be a device for recording just such moments.

AD: What are some of the really fun, far out, interesting ways people see Newton being used?

AK: You could see the technology as big as white boards, as small as something that fits in your pocket. You could combine Newton with a telephone and do a real-time fax machine; rather than sending paper back and forth, you could send screens with your scribbles back and forth.

Someday, we can imagine Newton technology being built into everyday appliances such as refrigerators. When I grew up there was always the calendar on the refrigerator that said when the kids were in school and all that sort of stuff. Imagine the calendar being a Newton device: Not only could it be

used for recording the family schedule, but also it could communicate with Newton devices you carry around so you could keep in touch with your family all the time.

AD: I've heard of one application in which Newton could use infrared communication technology to beam messages from one person to another.

AK: Absolutely, and that could have a couple of uses. You can imagine how convenient it might be to pass electronic business cards that automatically appear in your address book without your having to do anything. The other thing that people are quite interested in is being able to pass notes electronically at meetings.

THE FIRST PRODUCTS

AD: Can you say anything about what the first Newton products will be like and when they'll be available?

AK: We haven't announced a specific product yet—just the technology. The first products will be what we are calling *note pads*—that is, something you can hold in your hand and conveniently carry around. At CES and a few other places, we've shown a working demo of a Newton product that's roughly the size of a videocassette and fits in your coat pocket. While we won't ship that exact product, you can expect it to look something like that—small, lightweight, easy to carry, and, we hope, something that you'll want to have with you most of the day.

We still expect to ship the first product in the first half of 1993 and deliver it at a retail cost of well under \$1000.

NEWTON TECHNOLOGIES

AD: What kind of new technologies will the product feature?

AK: Newton is based on an entirely new collection of technologies. It is *not* based on the Macintosh Operating System; it's an integration of new hardware technology and a new software architecture.

At the heart of the hardware architecture is a processor called the ARM 610, which is a product of a company called ARM Limited, based in the United Kingdom, that Apple, VLSI, and Acorn started a few years ago.

The ARM 610 is a very high-performance, low-power-consumption RISC processor that we believe is optimal for these kinds of devices—devices that

have lots of computing to do but don't necessarily have lots of power or space available to them. The chip provides roughly one to two times the performance of a Macintosh IIx or a 80486 with a power consumption appropriate for a device not much bigger than the palm of your hand.

As far as software architecture, our work is focused around a few key areas. One is what we call the recognition architecture, which provides not simply handwriting recognition (since Newton is pen-based) but also recognition of other kinds of input, ranging from sketches to complex structures. For example, Newton devices could one day be able to recognize the structure of an org chart or a timeline. Everyone knows that with a timeline the stuff on the left happens before stuff on the right; the recognition architecture incorporates technologies that will help Newton devices recognize these kinds of things as well.

Another kind of input is so-called *gestures*—crossing out something on a page, scratching it out, circling something. The debate going on right now in the pen-based computing community is whether there should be seven gestures or eleven gestures in pen-based computing. We've found that people need to use such gestures but prefer to remember just a few rather than having to remember a whole stack of them.

A couple things about the recognition architecture are key. One is that it is designed to be modular so that you can put different kinds of recognizers in without having to swap all of the other ones out. Also, the architecture is hierarchical so the recognizers can work together and make decisions together. For example, take the equation $2 + 3 = 5$. A character recognizer might recognize "2", "3", and "5", and a graphic recognizer might recognize '+' and '='; at the same time, a higher-level recognizer might look at all of that and determine, or "recognize," mathematics.

Next in software is something called the *information architecture*, which is really sort of an object database creating something we affectionately call "data soup." This is the idea that documents probably aren't the right granularity for these types of devices: You can't really think of running your life using a series of word-processing documents, each of which has one appointment in it. The information architecture works with small bits of information to link them together so that when I write down "Gregg Williams" in my Newton appointment book, the device knows that it's the same Gregg Williams I recorded in my Newton address book.

We spend a lot of time focusing on communications as well. Early on we noticed that people spend a tremendous amount of time communicating information. So we built Newton from the ground up with a rich, modular communications architecture. Its modularity allows users to have different kinds of communications, from cellular to paging to wired, without having to completely change the architecture to accommodate each different kind.

AD: Will these technologies be used only in Apple Newton products, or will we see them in other products, too? Also, are these technologies unique?

AK: We've announced that we are selectively licensing the Newton operating system. We've announced a relationship with Sharp Corporation of Japan, the leading manufacturer of organizers in the world. We'll pursue other businesses as appropriate. We'll also make some of the core Newton technology available to other parts of Apple, and you'll see some of it, perhaps recognition and other things, start to appear in Macintosh computers and other Apple products.

We're also licensing technology from outside the company and using existing Apple technology, such as AppleTalk, in these products. So it's not all invented from scratch within the Newton group. We're really trying to take the best of a combination of minds and people and put them together for great products.

NEWTON DEVELOPERS: WHO ARE THEY?

AD: Is Newton something every Macintosh developer should be interested in?

AK: I think that all the Macintosh developers may want to view it as an opportunity, but it is a very different kind of business, and entering it will be much like diversifying into any new business.

We expect that a lot of Macintosh programmers and developers will be involved, as well as a lot of people who may have never done computer software before. Newton will use new kinds of software, and we're developing tools that we think will make it much easier to develop for Newton than it is for desktop computers today. As a result, a lot of new people are going to be developing for Newton—people with perhaps less computer science expertise and more expertise at understanding a particular customer or a particular market. So, overall, we expect the Newton developer base to be broader than current Macintosh developers.

Overall, it will be a very attractive business for developers. The tools we're introducing will mean that developers can anticipate bringing their products to market in a short period of time. Also, we'll be encouraging very focused products that—with new methods of distribution—can be very easily delivered to PDA customers.

AD: What will be the compatibility between Newton and Macintosh?

AK: They are different architectures, and it's important for people to understand that Newton isn't based on Macintosh. There's no application compatibility in that sense. In talking to customers and looking at the various different uses, one of the things we want to provide, though, is the ability to move data back and forth between different environments. The ability to take your address book calendar or notes on your Newton and move it to a Macintosh or DOS computer is something we feel will be very important. We'll be helping to provide solutions in that area.

AD: Apple also announced another PDA this year, one that will use Kaleida technology and be developed in collaboration with Toshiba. What do you anticipate will be the connection between Newton and this other PDA?

AK: The multimedia PDAs that we announced in the relationship with Toshiba—the PDAs known as Sweet Pea—are intended more as rich content viewers rather than for capturing and organizing information. In the future it may make sense to merge those technologies or borrow technologies across platforms. At Apple we always look at using technologies across a variety of platforms to serve customers well.

AD: How interested is the developer community right now?

AK: We've already had hundreds of inquiries from developers who want to develop for Newton. We've seen a tremendous amount of interest from a broad range of developers, from large, existing developers to people who want to start companies focused on PDAs, and from vertical market developers to in-house developers. Really a tremendous amount of interest across the board.

AD: Is anyone far enough along yet for you to say who they are or what they're doing?

AK: We don't violate nondisclosure agreements for developers and we let them make their own announcements. But at CES several companies stood up and said that they thought Newton was an important product progression into a

new market. Some of those companies are SkyTel, Motorola, and Random House. Random House, one of the world's largest book publishers, is very excited about Newton as an opportunity to publish their information, which has traditionally been delivered on paper, to a much wider range of customers via electronic devices such as Newton.

Newton's Appeal

AD: What tells you Newton is going to be successful?

AK: We've found in talking to customers that a great many people feel they have too much to do, too much information to deal with.

One of the things we've consistently found is that the big things are under control for these people. It's the little things in their lives that are driving them crazy—like when do I pay my mortgage, when is my anniversary, where am I supposed to be right now. So in looking at people's lives, we see a lot of need for this kind of device.

What we've found when we do user testing, which we do quite a bit of in the Newton group, is that in general people like very much that these devices are extremely intuitive and easy to use. They also really appreciate that Newton PDAs will be "intelligent," which will make them more valuable than devices that merely capture information.

Also, we've been very pleased—in fact, beyond our expectations—by how excited the press, industry analysts, and potential customers have been about Newton since our announcement. They see it as a really revolutionary type of product, and they're very excited about getting their hands on it. In fact, within a week of the announcement we already had gotten our first check.

Unfortunately, we had to return it, because we didn't have a product to ship.

AD: What do you mean by "intelligent?"

AK: The best way to explain this is with an example. Say I write some notes on my Newton that I want to turn into a neatly formatted business letter. All I need to do is highlight the name of the recipient and ask for assistance. Newton will automatically address the letter and format it appropriately, with my letterhead, and so on etc. We call this postformatting.

AD: Is intelligence working already?

AK: Yes. We've shown postformatting at CES and a few other places, as well.

THE NEWTON MARKET

AD: What people are in the market for Newton?

AK: We will be aiming at, not surprisingly, a wide range of markets. First, there's the professional market—people who will be using Newton devices for their business lives as well as their personal lives. For instance, think of realtors who are always on the road and might use Newton to manage their schedules, help show houses, record notes that they jot about new clients, show clients what monthly payments might look like—those sorts of things. They also might use it to remind them about when to pick up the kids from school and what lessons, games or day care to take them to that day. Then, when they get home, their children use it to use it to learn history and play games. It really cuts across a wide variety of people and a wide variety of tasks in their lives.

You'll also see us use Newton technology to build new products for institutional customers and other vertical markets. There's also the mass-market-oriented individual market that buys through traditional electronics outlets.

THE INTERNATIONAL FRONT**AD: Do you expect there will be an international market for Newton?**

AK: Absolutely. We'll be developing Newton products for customers around the world, both the Pacific and Europe. In October, we made an announcement in Wiesbaden at the CD-ROM and Multimedia Show, where we showed Newton and announced our entire consumer line of Macintosh computers for Europe.

AD: What kinds of localization issues do you anticipate with Newton?

AK: It will probably be more difficult to localize Newton than Macintosh because you have to localize not only the language but also the handwriting recognition, which may be different from language to language.

You'd also have to localize some of the cultural things; people of differing nationalities use address books in different ways. Entering phone numbers, dates, currency, and so on can also be very different. That's an important thing to recognize in building products for international markets.

HUMAN INTERFACE ISSUES**AD: What are some of the human interface aspects of building products for Newton?**

AK: Building products for Newton, as in building Newton itself, is going to be a very different experience than developing for the Macintosh. PDAs are mobile, and users have a different way of interacting with them through a pen rather than a mouse and a keyboard. And things like screen size have a big impact if you're looking at a small screen versus a 21-inch color monitor. There's a big difference.

Anything we do in the Newton group is grounded in user testing. In fact, we have a user testing lab with several people working on user testing full-time. We usually mock up ideas and test them before we do the coding so that we can figure out which of maybe ten different ways to do something is the right way and will make the most sense for users. We spend a great deal of time on user testing, because one of the things we want Newton devices to have is this incredible resemblance to things that people already understand, like pad and pencil or address books.

Many people already know how to use the real-world versions of the things that we're putting in Newton. They know how to use their appointment books. They're not willing to change a whole lot, so we need to come as close as possible to how real things work while still making the experience magical because it's on a Newton.

AD: What is user testing showing right now?

AK: People consistently remark about how easy it is to use, and how much the pen makes it much easier to interact with these kinds of things.

HOW TO KEEP IN TOUCH

AD: There's one more area we wanted to cover: What should developers do to stay in touch, to keep informed?

AK: To stay in touch, Newton developers should look at the usual Apple resources—Apple Direct, AppleLink, the monthly CD. Also, we've started the Newton Developer Information Program.. If developers want to get into this program, they can send an AppleLink to NEWTON.DEVS. We'll put them in our database and send them information on an ongoing basis. Some information is already available, and we'll broadly distribute new information in a variety of ways.

Also, developers who have ideas for Newton products or who are interested in opportunities with publishers or matchmaking capabilities with others can certainly send us AppleLink messages at that same address. ◆

[Editor's note: Conducting the interview were Gregg Williams, Technical Writer, and Paul Dreyfus, Editor. Since being interviewed, Alex Knight has taken another position within the Apple PIE organization. His former position of Manager, Add-In Software, will be filled shortly; Alex will forward any Newton developer inquiries to his successor.]

Editor's Note

Several months ago, in September 1992 to be exact, we asked you to let us know what you thought about *Apple Direct* to help us prepare its new format. Many thanks to the two dozen of you who took the time to write back. This month, we'd like to informally let you know the results of that informal survey by quoting from your letters to us.

First off, a key demographic: the vast majority of those who responded to the survey had dual marketing/engineering responsibilities within their organizations. Is this a trend? Is competition forcing engineering types to grow market-savvy (and marketeers to learn how to program), or is this just a data blip created by the small number of responses? I'd appreciate your help on this point.

Now, for some comments, selected because they express themes expressed by many of those who wrote:

"PLEASE return to the 8 1/2 x 11 format! And perhaps punch three holes for standard binders.

"Also, I'd like to see more coverage of what is happening Apple-wise in each major country (or Apple region)—perhaps a page for each, including relevant excerpts from NewsBytes for the region.

"I have found the recently introduced NewsBytes service on AppleLink most useful, and I refer to it daily. I think it might benefit *Apple Direct* readers to have a summarized list each month of appropriate headlines.

"Looking back over past issues of *AD*, I have got the most out of marketing 'how-to' sections and human interface. I have got less out of the news items, because most of it has already reached me by other means (for example, AppleLink, local mailings, grapevines) before I get *AD*."

"I would prefer more of an insider's view—it would make me (as a developer) feel more important to Apple if I knew important directions that were not public knowledge.

"What would I like *AD* to do? Become more timely. Either publish more often, or report on news/events before they are likely to be done elsewhere."

"What does *Apple Direct* have that you can't get elsewhere? One big thing is the rationale behind certain things at Apple being done the way they are....This

is important for those of us who are looking to see where things are headed, not just where they are.”

“*Apple Direct* is important because it contains things that come directly from Apple. I read AD mainly for news and current Apple program information.”

“I use sales, marketing, and tactics information from publications like *Success*, *Sales & Marketing Management*. However, I find *Apple Direct* more valuable because of the case studies and Macintosh software focus, that is, this is what we did and how we would do it again. Keep the case studies; I find them very valuable and interesting. I thoroughly enjoy your publication and have actively used information out of every issue.”

I saved the best for last, partly to end on a high note, but also to indicate that your constructive criticism is more important right now to us than your praise. We’ve been making subtle and not-so-subtle changes over the past few months to address your concerns. For example, we’ve worked on late-breaking stories right up to the last minute to make the news more timely; our issue reporting the new Fall 1992 products (the Duo system, new PowerBooks, Macintosh Ilvi and Ilvx, QuickTime 1.5, and System 7.1) shipped the day of the October announcement.

We’ll be making many more changes this year. Please let us know how we’re doing, and feel free to write and reinforce/contradict any of the points made above (Applelink:APPLE.DIRECT).

Paul Dreyfus

CD Highlights

Welcome to the January 1993 Developer CD, *New Hack City*. Featured this month are new documentation, tools, and updates to some old standbys.

Technical Documentation: In the technical documentation folder you'll find the new Toolbox book from New Inside Macintosh. See the article on page 8 for more about *Inside Macintosh: Macintosh Toolbox Essentials*. You'll also find the new developer note for the Macintosh Duo system.

Macintosh Technical Notes: This month's disc brings you four new tech notes and a number of new and updated Q&As. New tech notes include Background-Only Apps, Fixed CLUT Devices, and MacApp Segmentation.

AppleLink Offline: Thanks to Shirley Wong of Apple On-line Services for contributing AppleLink Offline, a HyperCard version of the Developer Services and Selling Into Europe bulletin boards currently on-line on AppleLink.

CSMP Digests: This digest is a collection of article threads from the Internet newsgroup comp.sys.mac.programmer. Each issue of the digest contains one or more sets of articles (called threads), with each set corresponding to a discussion of a particular subject. The digest is designed for people who read comp.sys.mac.programmer semiregularly and want an archive of the discussions. The entire digest is available for anonymous ftp from ftp.cs.uoregon.edu [128.223.8.8] in the directory /pub/mac/csmp-digest. It is reprinted here with the permission of its moderator, Michael A. Kelly.

ColorSync: Here is another update of ColorSync, Apple's new color-matching architecture for the Macintosh. This system extension enables consistent color across the Macintosh platform and features predictable color across color devices, system-level color matching, ease of use, and an open architecture for third-party developers.

GestaltValue: This tool will display information about all known Gestalt selectors in the system. It provides information and interprets selector responses on known selectors.

ShimmerMate: This latest version of ShimmerMate names both the Owner's Name and Macintosh Name resources found in the Sharing Setup Control Panel (System 7.x systems only).

Updated Tools: Among our updated tools are System Picker, Disk First Aid, and MountImage. System Picker is a utility that allows the user to choose the folder that will be the active System Folder upon restart. Disk First Aid helps diagnose and resolve hard-disk problems, and MountImage allows you to mount disk images directly without downloading them onto floppy disks.

Happy browsing!

Sharon Flowers
Developer CD Project Manager

It Shipped!

Through the It Shipped! program, you can announce new and revised third-party products in *Apple Direct*. It Shipped! listings are also made available on the 3rd Party Connection AppleLink bulletin board. You can obtain an It Shipped! application by downloading it from the AppleLink network (AppleLink path—Developer Support:Developer Services:Apple Information Resources:Developer Program Information:It Shipped! @ Program). Or call Todd Luchette at (408) 974-1241 (voice) or (408) 974-3770 (fax).

Once you've completed the application, send it to Engineering Support, Apple Computer, Inc., 20525 Mariani Ave., M/S 42-ES, Cupertino, CA 95014, Attn: It Shipped! Program. Or send it by AppleLink to IT.SHIPPED.

The following products shipped in November 1992.

Publisher **Product (version)**

UNITED STATES

ASD Software, Inc.	FileDuo (1.0) TrashGuard (1.0)
CE Software, Inc.	QuicKeys (2.1.3)
Coconut Info.	ClickAgent II (II)
Created, Inc.	Sanctuary (2.0)
Dantz Development Corp.	DiskFit Direct (1.0)
Don Johnston Developmental Equipment, Inc.	Co:Writer (1.1) Ke:nx On:Board (2.0B)
Fifth Generation Systems	Public Utilities (1.0)
Inline Design	Darwin's Dilemma (2.0) Swamp Gas Visits Europe (1.0) INITPicker (3.0)
Kiwi Software, Inc.	Kiwi Power Menus (1.0) Kiwi Power Windows (1.5.2)
Macintosh Business Systems	Feedback for 4th Dimension (1.1)
Neon Software, Inc.	NetMinder Ethernet (2.2)

Optimum Resource, Inc.	Stickybear's Reading Room	(2.21)
PaperClip Products	Bulls Eye (1.0.2)	
	DST Minder (1.0.2)	
	Gray Vu (1.0.2)	
	Diamond Menu (1.0.2)	
	Monitors Minder (1.0.2)	
	Mouse Gears (1.0.2)	
	Pick A Letter (1.0.2)	
	RoboType (1.0.2)	
	Sleep Now! (1.0.2)	
Postcraft International Inc.	Effects Specialist (2.0)	
Psygnosis	Lemmings (1.4.2)	
Truevision, Inc.	Truevision VideoMaker+ for the Macintosh (1.0)	
Useful Software Corporation	Useful Voice Processor for Macintosh (1.0v2)	
Xanatech, Inc.	ShuttlePilot (1.01)	
Warner New Media	Murmurs of Earth (N/A) Word Tales (N/A)	

UNITED KINGDOM

Logic Programming Associates	LPA MacPROLOG (4.5)
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CANADA

Capilano Computing Systems	DesignWorks (3.0)
Immedia Telematics Inc.	Immedia Express for the Macintosh (1.2.2)

Hot Product of the Month

QuickTime is Apple's revolutionary system software architecture that manages time-based data—providing endless possibilities for software developers to support multimedia in their applications.

Now Apple introduces new software development kits to meet your QuickTime development needs on both the Macintosh and Windows platforms. You'll save development costs and time, and you'll eliminate the need to support multiple programming interfaces.

Special offer

New! *QuickTime Macintosh and Windows Software Development Kit Bundle*
Order this bundle before January 30, 1993, and save \$100. QuickTime for Windows is an implementation of the QuickTime architecture for the Microsoft Windows environment. This bundle allows you to create applications on both platforms. These developer kits enable software vendors to publish ISO format CDs containing files that can be played on both Macintosh and PC platforms. The Windows Kit provides an API identical to that of the Macintosh, making it easier for programmers who are already familiar with adding QuickTime support to their applications.

Product contents: An ISO-format CD-ROM with Dynamic Linked Libraries, sample applications and source code, movie files, on-line documentation and help; six DOS-based disks containing a subset of the CD-ROM for users with no CD drive; *QuickTime for Windows Programmer's Manual*; *QuickTime 1.5 Manual*, *QuickTime Components Manual*, one QuickTime 1.5 CD-ROM, and one Kodak Photo CD-ROM.

B0995LL/A Regular

*price \$495.00 **Special offer \$395.00 (U.S.)***

New! *QuickTime for Windows Software Development Kit*

Product contents: An ISO-format CD-ROM with Dynamic Linked Libraries, sample applications and source code, movie files, on-line documentation and help; six DOS-based disks containing a subset of the CD-ROM for users with no CD drive; *QuickTime for Windows Programmer's Manual*.

R0453LL/A \$295.00 (U.S.)

New and powerfully improved! QuickTime for Macintosh 1.5 Software Development Kit

Improvements include movies that play larger and faster; movies that play better from CD-ROM discs and EtherTalk networks, Kodak Photo CD support, text and derived media types, hardware support for full-screen, glitch-free 30-fps movies, and improved user interface

Product contents: QuickTime 1.5 Manual, QuickTime for Components Manual, QuickTime 1.5 CD-ROM, and a Kodak Photo CD-ROM.

R0147LL/B \$295.00 (U.S.)

QuickTime for Macintosh 1.5 Update Software Development Kit

Update for QuickTime Development Kit 1.0 owners only. See QuickTime for Macintosh 1.5 Software Development Kit for new product features description.

Product contents: QuickTime 1.5 Manual, QuickTime for Components Manual, QuickTime 1.5 CD-ROM, and a Kodak Photo CD-ROM.

R0456LL/A \$150.00 (U.S.)

QuickTime for Macintosh 1.5 Documentation Kit

Hard copy versions for developers wanting additional documentation.

Product contents: QuickTime 1.5 Manual, QuickTime for Components Manual.

R0455LL/A \$99.00 (U.S.)

QuickTime Movie Exchange Toolkit Version 1.0

Convert multimedia application data created on other platforms to QuickTime movies playable on a Macintosh. Toolkit includes applications for many computers that let you easily create a QuickTime movie with both sound (8-bit) and images (8-bit and 24-bit).

Product contents: Three Macintosh disks and the Movie Exchange Toolkit Reference Manual.

R0190LL/A \$79.00 (U.S.)

QuickTime Programming Tutorial

This class walks you through the process of adding QuickTime functionality to an existing Macintosh application. In just a few hours, you can learn to read, write, and play movies in an application. The course also teaches you about

fundamental QuickTime concepts such as MooVs, tracks, media, transforms, previews, posters and badges, and human interface issues.

Product contents: One Macintosh disk and one workbook.

R0413LLA \$80.00 (U.S.)

Now Available From Apple

The following list shows APDA products that have become available to developers within the last several weeks. To get a full listing of all APDA products, check the current *APDA Tools Catalog*. For new product announcements and the most up-to-date price lists, check AppleLink (path—Developer Support:Developer Services:Apple Information Resources:APDA—Tools for Developers).

Apple Products

Books

MacApp Reference

R0195LL/A

\$30.00

Tools

AS/400 Server Products Evaluations and Licensed Purchases

Contact Apple Software Licensing at (408) 974-2320 for additional information.

Developer University Mini Course: MPW Programming Tutorial

R0247LL/A

\$150.00

Introductory Price \$120.00

MacX.400 Programmer's Kit

R0131Z/A

\$200.00

MacX.400 Developer's Kit

B0847Z/A

\$3,200.00

MacTCP 1.1.1 Developer's Kit

B0943LL/B

\$100.00

MacTCP 1.1.1 Developer Upgrade Kit
R0446LL/A
\$25.00

QuickTime Developer's Kit Version 1.5
R0147LL/B
\$250.00

QuickTime (version 1.5) for Macintosh Documentation Kit
R0455LL/A
\$99.00

QuickTime Developer's Kit Version 1.5 Upgrade (only for customers who
purchased
Version 1.0)
R0456LL/A
\$150.00

QuickTime Macintosh and Windows Development Kit Bundle
B0995LL/A
\$495.00
Special Introductory Price \$395.00 (until January 30, 1993)

QuickTime for Windows Developer's Kit Version 1.0
R0453LL/A
\$295.00

Developer University Mini Course: QuickTime Programming Tutorial
R0413LL/A
\$100.00
Introductory Price \$80.00

Ordering Information

To place an APDA order from within the United States, contact APDA at (800) 282-2732; in Canada, call (800) 637-0029. For those who need to call the U.S. APDA office from abroad, the number is (716) 871-6555. You can also reach us via AppleLink; the address is APDA. If you're outside the United States, you may prefer to work with you local APDA contact. For a list of non-U.S. APDA contacts, see the "International APDA Programs" page in the *APDA Tools Catalog*.

New Books (and a CD): Macintosh Programming Made Easier

Lots of help is on its way this month for the techies who are new to Macintosh as well as for those Macintosh programming vets who need a refresher.

Apple has just released two more books within the New Inside Macintosh series, *Inside Macintosh: Overview* and *Inside Macintosh: Macintosh Toolbox Essentials*. We've also just shipped new editions of both *Technical Introduction to the Macintosh Family* and *Macintosh Human Interface Guidelines*. All of the books, published by Addison-Wesley, are available from APDA and in U.S. bookstores. (For international availability, check with your regional Apple office. For a list of these offices, see AppleLink [path— Developer Support:Selling Into Europe>Welcome & Third-Party Apple Contacts:Apple Third-Party Contacts In Europe].)

INSIDE MACINTOSH: OVERVIEW

Inside Macintosh: Overview will make a great holiday gift for that DOS/Windows programmer on your list, or anyone else who's looking for basic information on Macintosh programming. After reading through this relatively short (272-page) book, the novice Macintosh programmer can better make the decision as to where to continue learning the system.

Inside Macintosh: Overview provides a general introduction to the Macintosh Operating System, the Macintosh Toolbox, and other system software services that your application or other software component can use. Everyone who programs Macintosh computers should read this book. *Inside Macintosh: Overview* illustrates the way the Macintosh managers relate to one another by gradually dissecting the source code of a very simple sample application.

INSIDE MACINTOSH: MACINTOSH TOOLBOX ESSENTIALS

Another basic book in the New Inside Macintosh series is *Macintosh Toolbox Essentials* (928 pages), which provides an essential tutorial and reference for any Macintosh programmer. By reading *Macintosh Toolbox Essentials*, you'll learn to implement the basic elements (including menus, windows, controls, dialog boxes, icons, and event handling) of a Macintosh application.

This book provides copious sample code, including code that illustrates how to zoom windows, create pop-up menus, implement scrolling, use modeless and movable modal dialog boxes, create icon families, and handle all types of events. The hundreds of figures in this volume help illustrate Macintosh programming concepts and proper implementation of Macintosh human interface guidelines. The book also introduces file types and creators and describes the various kinds of resources (icons, file references, and bundles) that the Finder needs to display your application and the documents it creates.

TECHNICAL INTRODUCTION TO THE MACINTOSH FAMILY, SECOND EDITION

Technical Introduction to the Macintosh Family, second edition (409 pages), surveys the Macintosh family of computers from the developer's point of view. It's intended to be the starting point for technical documentation about Macintosh computers. The information in it provides you with a basis for planning and decision making and helps you select tools and other books. If you're new to the Macintosh, you'll want to read it even before looking at *Inside Macintosh: Overview*.

The first edition of this book had a hardware orientation and was intended for programmers and others with a technical orientation curious about the Macintosh. This new edition, which has been greatly revised and expanded, is written for the same reader, but its scope has expanded to include more software topics. It covers new members of the Macintosh family, such as the Macintosh Quadra and PowerBook. In addition, it provides information about recent system enhancements, such as System 7 and QuickTime, and development environments, including Macintosh Programmer's Workshop (MPW) and A/UX, Apple's implementation of the UNIX® operating system.

NEW MACINTOSH HUMAN INTERFACE GUIDELINES, COMPANION CD-ROM

Macintosh Human Interface Guidelines (412 pages) has been expanded and completely reorganized into chapters that each deal with a single interface element—menus, icons, color, and so on. The book gathers information from interface notes and the original *Inside Macintosh* volumes and combines it all in one place. New in this edition are discussions of color, icon design, and the use of language. It also includes guidelines for collaborative computing and worldwide compatibility and for designing for universal access.

Macintosh Human Interface Guidelines contains a revised and expanded bibliography of seminal works, overviews, and expert works in a variety of fields, a checklist you can use to evaluate software for conformity to the guidelines, and a listing of conferences, sources of information, and regular publications on interface and human-computer interaction.

With many more pictures and screen shots than the original, the new version illustrates the wrong as well as the right way to go about interface design. It also provides authoritative information on the theory behind the Macintosh “look and feel.” Anyone designing or creating a product for Macintosh computers needs to understand the information in this book.

If a picture is worth a thousand words, then an animated example should be worth volumes. In this spirit, to accompany the new human interface book Apple has published a CD-ROM, *Making It Macintosh: The Macintosh Human Interface Guidelines Companion*. Complementary to but independent of *Macintosh Human Interface Guidelines*, *Making It Macintosh* illustrates the principles discussed in the book. It’s sold exclusively through APDA. ◆

“Bad Dialog Box” Contest Results

In the October 1992 issue of *Apple Direct*, we asked readers to tell us what was wrong with the “bad dialog box” we used to illustrate Pete Bickford’s Human Interface column about the importance of detail.

If you recall, we said we’d award a prize for and reprint the “most entertaining” of the entries. You made it tough for us to choose: We received a variety of responses, all of them informative and amusing, even the one that crashed the editor’s system every time he tried to open it (!). Thanks for the effort made by all the contestants.

In the end, two entries rose from the bunch to tie for first place, but before getting to the winners, we wanted to acknowledge a couple of runners-up.

First, see Figure 1, which shows the bad dialog box we asked you to critique.

WORSE

DIALOG BOXES

Our first runner-up, Graham Mulcock of Neotech Ltd., appears to have had a pretty good time with his entry. Graham suggested that when writing a dialog box,

. . .you should ask the question in a variety of ways, ensuring that it’s in keeping with the general conversational tone of the application at the time the dialog box is called. For example, the first time the user forgets to save a document, this Figure 2 might be appropriate.

Then, the second time, Figure 3.

Try and keep your dialog boxes tight. After entering the text real close to the left, check to see how much space you have at the right. If it’s more than 6 pixels, either put in more text (use longer words), or shrink the box size a bit. Buttons look better with long words—and the odd comma, period, colon or question mark doesn’t do any harm either.

FROM WORSE TO ABSURD

We compliment Angus McIntyre of Knowledge Technologies, our second runner-up, for the sheer lunacy of his entry. His suggestion for “fixing” the bad dialog box may be the first Dada-inspired effort at human interface design. (It might even qualify for the permanent collection of the Museum of Modern Art in New York.) Figure 4 displays his effort. (Note the use of color. As Angus says,

“Given the Mac’s capabilities, not using multiple fonts and colored text is almost criminal.”)

Really weird, Angus. Thanks!

AND THE WINNERS ARE . . .

Our first winner, David Thompson of Sybase, submitted an entry that may be more correct than entertaining. He identified all the problems with the bad dialog box and recommended a way to fix them. Here’s most of his entry, with his “good” dialog box, actually an alert (Figure 5):

Text Problems:

- The word “window” is misspelled as “wiindow.”
- There is way too much text.
- The question itself is ambiguous: “Do you really want to do this”? What is “this?” Save or Close? Good luck, Mr. User!
- The “please” and “thanks” are superfluous.
- The dialog doesn’t clearly state which window is being closed. Although the active scroll bars suggest it is the “untitled” window, it might not be, given the shadow of doubt cast by the quality of the dialog box; there may be another monitor connected with the real front window!

Layout Problems:

The default button is not in the right-bottom corner as it should be.

The dialog box is too crowded. A little space around the text would be nice. The designer, and I use the term generously, obviously didn’t consider localization. *The Human Interface Guidelines* recommend to plan for a 30 percent increase in space required for text when an English-language dialog box is translated into a language such as German.

The buttons should be spaced evenly below the text across the bottom of the dialog rather than shoved to the left side. As well, there needs to be a Cancel button to allow the user to return to editing the document without saving or closing it.

The Solution:

Use an alert instead of a dialog box, and remember that alerts should be terse, yet succinct.

The text should read “Save changes to document ‘untitled’ before closing?” The “before closing” is useful for letting users know what action they chose in case they unknowingly chose the wrong menu item for example, Command-Q for Quit instead of Command-W for Close. The “before closing” would become “before quitting” if Quit had been chosen.

Congrats, David, and thanks; a copy of *Inside Macintosh: Processes* will soon be on its way.

Drum roll please, for Dave Kauffman of Kinetic Sciences, Inc., winner number 2, to whom we’ll also send a copy of *Processes*. You’ll see from his entry that he chose a slightly different way to say many of the same things his cowinner pointed out:

Let me tell you that there is NOTHING wrong with the dialog box in October’s issue of *Apple Direct* Human Interface column. I should know. I wrote the program that put up the dialog box.

It’s true. My name is Peter as well and knowing full well that my boss would end up using our spiffy word processing-app, I carefully embedded a full English syntax parsing, AI semantic understanding recognition system into the application as a resource named “G-D” (don’t forget the space!). Once the user attempts to close, save, print, or otherwise disseminate his or her document, my program reads the entire text and decides whether the letter is beneficial or deliterious to me. Since this letter was obviously out to get me into trouble, my program cleverly switched the text in the dialog box to encourage the author to delete rather than save it. Just what I wanted.

The other “unique” features of the box, the fact that the default button is on the left side, rather than the right, the fact that the buttons are scrunched over onto the left side, and the jamming of the text into the top left-hand corner are all to make the dialog as irritating as possible to encourage the user to dismiss it quickly, without reading it or realizing the implications of what is about to happen.

Also, ‘wiindow’ is the correct spelling according to the spell checker I wrote (I disagree with Webster).

Ever happy to clear things up,

Peter Perfect

Exceptionally Gifted
Object (EGO) programmer

Submitted on behalf of Peter by Dave Kauffman.

Thanks, again, to all who entered. Because of the popularity of this contest, we'll run additional contests from time to time. Next month, Peter Bickford will resume his coverage of new human interface issues. ♦

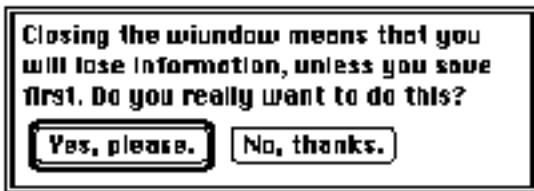


Figure 1: The "bad dialog box"

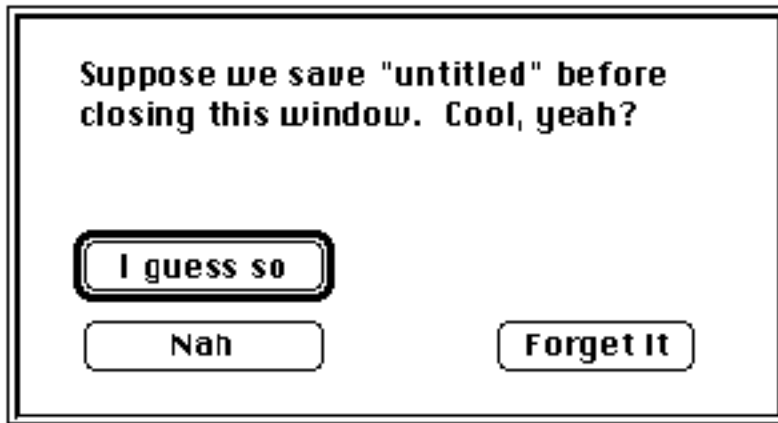


Figure 2: A really bad dialog box



Figure 3: An even worse dialog box

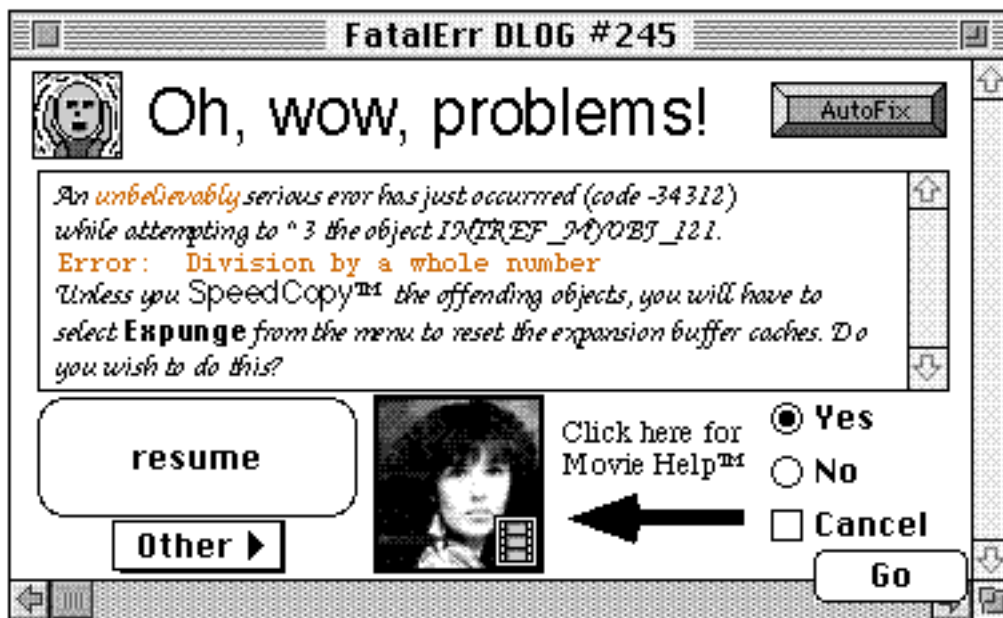


Figure 4: Dadaist dialog box

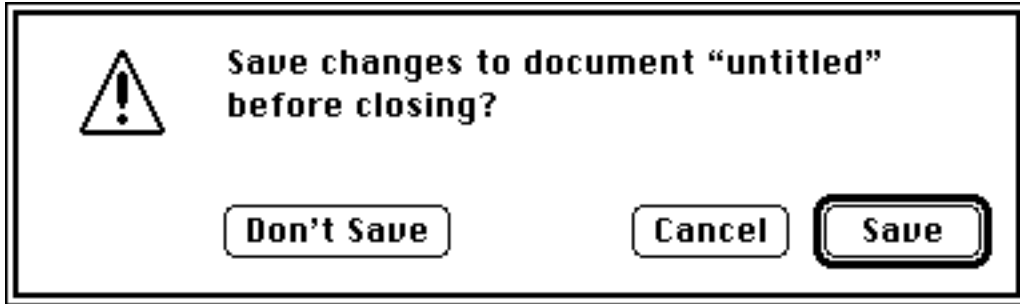


Figure 5: A "good" dialog box, actually an alert box

Get Next Event

The “🍏” indicates the trade shows/events at which Apple Computer, Inc. is scheduled to exhibit as of press time. This list may be incomplete. If you have information about a show that you want listed here, contact Developer Technical Communications, 20525 Mariani Avenue, Mail Stop 75-3B, Cupertino, CA 95014. For further information check the Events folder on AppleLink (path—3rd Party Connection:Events).

February 24 through 27

🍏 NABE

National Association of Bilingual Educators

Houston, TX

Contact: Javier Villalobos

AppleLink: VILLALOBOS1

(408) 862-6426

February 24 through 27

🍏 NAIS

National Association of Independent Schools

New York, NY

Contact: Martha Rolley

AppleLink: ROLLEY.M

(408) 862-7663

March 17 through 20

🍏 CSUN

International Disability Conference

Los Angeles, CA

Contact: Caren Normandin

AppleLink: NORMANDIN

(408) 974-8583

March 27 through 29

ASCD, Washington, DC

Contact: Glenn Fisher

AppleLink: GFISHER
(408) 974-8505
ASCD (703) 549-9110

March 30 through April 1

🍏 Intermedia

San Jose, CA
Contact: Dave Billmaeier
AppleLink: BILLMAIER1
(408) 974-6553

March 31 through April 3

🍏 NCTM

National Council of Teachers of Mathematics

Seattle, WA
Contact: Lori Deuchar-Yum
AppleLink: DEUCHAR
(408) 974-8626
NCTM (703) 620-9840

April 1 through 4

NSTA

National Science Teachers Association

Kansas City, MO
Contact: Kenyon Scott
AppleLink: SCOTT.K
(408) 862-7677
NSTA (202) 328-5800 x31 &51

April 12 through 15

FOSE–Federal Office Systems Exposition

Washington, D.C.
Contact: Patty Nation
AppleLink: NATION1
(408) 974-8910

Macintosh Marketing Seminar To Be Held in February

The Macintosh Marketing Seminar will be held February 18–19, 1993, at the Fairmont Hotel in San Francisco, CA. Cosponsored by Apple Computer and Sumeria, the conference was created, in part, in response to feedback from the 1992 Worldwide Developers Conference (WWDC). Developers told Apple they needed more business and marketing support and information. The seminar provides marketing professionals at all levels with an event that focuses on Macintosh marketing issues.

Sumeria, a new company recently spun-off from the IDG publication Macworld, was formed to produce electronic publications about personal computing.

Macintosh Marketing Seminar sessions will include Channel Changes in the Macintosh Market; Direct Mail, Catalogs, and Mail Order; The Consumer Market; Anatomy of a Successful Marketing Campaign; Affiliated Label Programs; Copyright and Software Protection Issues; Emerging Technology and Markets; Macintosh Industry Research; and International Marketing. For additional information, please contact Donna Deuell at (415)904-0808; fax (415)904-0888; AppleLink: SUMERIA. ◆

Understanding the Competition

By Frank Catalano, Catalano Consulting

Know your enemy. For centuries it's been a basic rule of the battlefield. Get into the opponent's mind, learn what makes him tick, and then you'll know his vulnerabilities.

The same holds true in product marketing. Unfortunately, the personal computing battlefield is teeming with armies that don't always identify themselves with colorful banners. You have to use everything at your disposal to ferret them out and understand how they might capture your customers' hearts, minds, and money.

Competitive analysis is a crucial precursor to a marketing plan. It helps you position a product, choose channels, tweak feature sets, set pricing, and even decide if your product is truly viable. With a good understanding of the competition, you enter the market knowing who you're likely to encounter and which opponents you'll want to engage.

But how do you begin the process of identifying competitors, especially if you're a small company with limited resources? Here are a few things I've learned about it over the years.

VIEW COMPETITORS THROUGH CUSTOMERS' EYES

When evaluating the competition, point of view is everything. You must step outside your own box and do some "outside in" thinking: Pretend you don't know *anything* about your company's development plans, marketing strategies, or importance to industry insiders.

You should look at yourself as do your competitors and the industry overall. But more important, you must view yourself as a mainstream customer would: as the provider of yet another tool for getting a job done or for filling some particular need.

In general, mainstream users don't care if the application's core engine is a technological wonder; they're not the early adopters, the enthusiasts who thrive on getting (and understanding) the latest and greatest technology. Instead,

mainstream users just want to be sure your product will fill their needs with a minimum of disruption, frustration, and headaches.

One of the most prevalent mistakes we all make at one time or another is ignoring how the competition looks *from the vantage point of customers*. They certainly view things differently than do the developers they buy from. Customers have a less segmented view of the personal computer business than industry insiders do. They don't always know or care about the finer points of product category differentiation (such as the distinction between high-end word processors and low-end desktop publishing packages). So your competition as defined by a customer could be anything from other Macintosh applications to a Nintendo cartridge to a pen-and-pencil set.

Instead of viewing competition by categories, customers tend to look at products as being a *continuum of possible solutions to a problem*. For example, if there's a rip in a chair's upholstery, the owner is likely to look for any possible way to fix it, considering everything from duct tape to a sewing needle to hiring an upholstery service. A customer in this situation doesn't necessarily (or consciously) look for a solution only within a particular product category, such as "adhesives" or "pointed metal objects."

The point is that sewing needle manufacturers don't necessarily view makers of duct tape as competitors. But in this situation they do compete, even though the customer doesn't consciously distinguish between the two product categories. In fact, what might appear, to a vendor, to be a strange solution to a problem may be an entirely feasible solution in the customer's mind.

This is also true of mainstream personal computing customers. For instance, if users need to manage their household budgets, don't assume they will automatically turn to personal financial-management software. They may instead turn to spreadsheets (which, after all, are a logical choice for working with numbers) or electronic bill-paying services (if the services include monthly reports detailing where the money was spent).

Furthermore, how customers perceive product categories is likely to become even more blurred as personal digital assistants (PDAs) and other "hybrid" computing options broaden the number of possible solutions to a problem. As the range of choices increases, users begin to view your competition in ways that may not be obvious to you. Being aware of users' views of competition is an excellent first step in understanding the enemy.

Get Inside Their Heads. Getting inside a customer’s head is the next step. Try to define the problem as a customer would, and ask yourself the kinds of questions a user might ask in the search for a computing solution.

Use your imagination. Write a description of your target customer: age, gender, education, income, computer sophistication (don’t overestimate)—the works. Grab a magazine and clip out a photo of your “typical” target customer if that helps you visualize him or her.

Then, as if you were the customer, ask yourself: What problem am I trying to solve? What do I hope to accomplish? Where would I seek advice to solve this problem? Is this something I really need or could I do without it? How much is the solution worth to me? Where would I buy it? If I can’t find exactly what I want, what’s my backup plan for solving the problem? How long or hard am I willing to look?

The answers to questions like these will help you understand, from the mainstream customer’s point of view, who your competitors are and where they may lie in ambush.

TYPES OF COMPETITION

As you can see, competition comes from a variety of sources. And how customers view it can vary by the target group they belong to, the channels they buy from, or a plethora of other vantage points. You can divide the information into an almost unending group of competitive “sets” for your product. And as absurd as some competitive sets may seem, they are very real to customers.

However, there are some basic ways to distinguish the kinds of competition you’re up against. Most broadly speaking, you can divide it into these categories: self-competition, direct competition, indirect competition, multiplatform competition, and “old- fashioned” competition. (While this categorization may appear to be based on common sense, don’t underestimate its value—it’s “common” precisely because it’s been successfully used most often.)

Competing Against Yourself. As more software products enter the market, developers must try harder to maintain market share and shelf space. In crowded product categories it’s particularly difficult to maintain, much less gain, market share. The problem is exacerbated by fierce competition for limited

retailer shelf space. Therefore, the tactics you use to get a leg up on the competition often end up making you compete with yourself.

There are several forms of self-competition. They're not necessarily bad, if executed properly and with a clear understanding of the risks and benefits. For example, cut-rate, direct-mail bundling deals with other developers can help you build market share—but not if the offer hits customers at the same time a reseller does a major push for the identical product, at a higher price. It could cost you a reseller relationship and impede long-term product growth.

You also compete with yourself when you market multiple products whose capabilities overlap. Imagine that you offer two drawing packages that are used for different purposes but have some key features in common. If you fail to significantly differentiate the two products by benefits or price, the customer may refrain from buying either package to avoid making the “wrong” choice from your product line. You lose that sale to a competitor whose choices are more clear-cut.

Offering customers an upgrade of an existing package is also self-competition. Almost every developer issues upgrades, but some don't recognize this as being self-competition. It is. You compete with yourself, for example, if you announce an upgrade more than a month or two in advance; an early announcement defers, and may cause you ultimately to lose, sales to customers who will want to “wait and see” what the upgrade has to offer.

Ditto for competitive upgrades, those pseudo-upgrades offered to a competitor's customers at a reduced price. In an uncrowded product category or in one with street prices that are already low, competitive upgrades can be suicide. More often than not, they result in a short-term return: You usually don't end up with additional market share, and you set new expectations for a lower price point in customers' minds. In addition, cut-rate competitive upgrades can reduce your profitability.

Keeping a previous version on the market (with less-advanced features at a lower price) after you've introduced an upgrade can also create self-competition. The older version can “steal” sales from your upgrade if the new version's features aren't seen as being a significant improvement.

So don't overlook self-competition as you piece together your competitive picture. There are pros and cons to all its forms, and you should evaluate this kind of competition as seriously as you do competition from external sources.

Direct Competition. This is the most obvious competitive set. For example, if you offer a database, makers of other databases (sometimes for other platforms, if your customers are in a networked, multivendor environment) are direct competitors.

However, it's not only current databases that compete; it's also the new or improved ones that will be on the market in the next 12 to 18 months. Keep in mind that if you do competitive research at the beginning of the development cycle, on the average your product will ship up to 18 months after you've done the analysis. Therefore, it's important to anticipate competitors' future releases and feature sets, because that's what is likely to be on the market when your product ships.

Also, don't overlook shareware and freeware in your product category. Those products are also direct competitors than can eat away at your market share.

Indirect Competition. Because you may have to compete with products that aren't necessarily in your product category, it's important to develop your peripheral vision. For instance, if you're creating a specialized product, find out whether target customers are using a more general-purpose package to get the same job done. Ask yourself what would compel them to switch to your product, especially if you haven't provided a price or overwhelming feature incentive. For example, even if you could develop mailing-list management software that uses Apple Events and QuickTime, would users want to ditch their general-purpose flat-file databases?

Multiplatform Competition. Avoid having tunnel vision about your platform. As I mentioned earlier, your competition may not be only other *Macintosh* products. With the proliferation of multivendor environments and more developers creating products for multiple platforms, you may well compete with a product that runs on another kind of computer. Also, be aware that first-time computer buyers may not have decided what platform to buy, let alone which software product. Make sure you've assessed the direct and indirect competitors in the Windows and OS/2 markets.

Consider also that your high-end product for a vertical market may cost as much as the hardware it runs on. Customers might just be willing to switch platforms if their choice of software doesn't run on, and costs more than, the platform they currently use.

The “Old-Fashioned Way.” Not everyone wants to use a personal computer for every task. Just because it’s possible to put recipes on a Macintosh doesn’t mean there’s a burning need for a replacement for index cards and refrigerator magnets. The same goes for creating, for example, a program that can electronically mimic Post-It notes.

Sometimes the manual, low-tech method is perceived as the best way to get a job done. It’ll be difficult to make customers switch unless you can sway them with an overwhelming benefit of using the Macintosh for the task. The key word here is overwhelming. Offering an alternate way to perform a task that is only incrementally better probably won’t overcome people’s natural resistance to changing how they do things. Therefore, the “old-fashioned way” is sometimes a competitor.

Where to Get Information. Once you know what (or who) to look for, your challenge becomes gathering the necessary competitive information. There are lots of ways to get competitive data, and some companies spend hundreds of thousands of dollars (or more) on original research and analysis. Original research, although precise if designed correctly, is pricey. However, in many cases you don’t need to hire a consultant or a market research firm to do some solid grass-roots qualitative research, and such research doesn’t have to be expensive. (For more information see “Competitive Information Sources for the Budget Conscious” below.)

How effectively and cleverly you use competitive information is as important as the information itself. But understanding the competition is the first step. It’s one of the best weapons you can have in your arsenal: It gives you a target to shoot at, a basis for comparison, and a way to learn from others’ mistakes. It can keep you from developing a product that doesn’t meet market needs or that will be an “also-ran” pitted against a well-entrenched competitor.

Understanding the enemy won’t win the battle by itself. But it will provide a secure staging area from which to launch your strategy, tactics, and ultimate victory. ◆

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Competitive Information Sources for the Budget Conscious

Having a tight budget doesn't preclude doing some clever, effective competitive research. For general competitive information, secondary or "informal" sources will take you a long way and will cost you far less than original research. The greater the variety and perspective of your research sources, the more likely your resulting marketing decisions will be on target.

A lot of what follows is common sense. However, you'd be amazed at how many people discount the valuable insights that can be obtained from some of these sources, if they know what they're looking for. Here's a sampling of sources that have served me particularly well:

- **Trade and consumer magazines.** The most obvious source of competitive information is weekly trade publications (*MacWEEK*, *InfoWorld*, *PCWEEK*) and the monthly computer consumer magazines (*Macworld*, *MacUser*). However, there's also valuable information to be found in the channel-oriented publications, such as *Computer Reseller News* and *Computer Retail Week*. Most magazines publish quarterly or annual indexes which also may be accessed through an on-line service (such as Ziff-Davis's ZiffNet, available through CompuServe).

From the scope and tenor of press coverage and product reviews, you'll get a good idea of how the media perceives your competitors. You can also get a good idea about competitors' advertising strategies from what their ads say. Are they focused on price? Availability? Features? Benefits? Are they spending a lot of money on ads? Buying a lot of ad space? Scrutinizing these issues will give you some interesting insights into competitors' marketing budgets, how they spend them, and whether this is an arena in which you can (or care to) compete.

- **On-line research.** A wealth of information is available from the commercial on-line services. For example, CompuServe has Ziff-Davis's Computer Directory and Computer Database Plus. These two databases allow you to search for products by category, title, developer, price point, or a variety of other methods. Computer Directory contains listings of more than 75,000

products; Computer Database Plus has abstracts and full-text articles from more than 130 computer industry publications.

Ziff-Davis also makes the two services (combined as the Computer Library) available on CD-ROM. Other database services on CompuServe are available through the IQuest gateway. You can also access a similar product service, the *Redgate Macintosh Registry*, in the Third Parties folder on the AppleLink network.

To keep costs down, know what you're seeking before starting a search. IQuest, Computer Library, and other database services on CompuServe assess charges in addition to standard CompuServe connection rates. But if you know what you want, searches can be relatively inexpensive.

If you want to stay abreast of competitive developments as they occur, CompuServe's Executive News Service allows you to create up to three electronic clipping folders that automatically collect and store news stories from a variety of sources based on keywords (your competitors' names, for example).

Another option is to simply scan a competing developer's on-line forum, special interest group, or icon on AppleLink, CompuServe, America Online, GENie, or Delphi (politely, of course). This will give you an idea of how users feel about competitors' products. Also, hardware-specific discussion areas have libraries in which you can find shareware or freeware competitors.

- **Customers.** There's valuable information waiting in the stack of registration cards your customers return. Use it as effectively as possible. For example, pick a random group of customers and call each one; ask for their feelings about your company, product line, and competition. This won't yield quantitative information, but it's a great way to take the pulse of customers who feel strongly enough about your product to register it.

Similarly, sit in on local user group meetings. Find out what products they're excited about. You'll get an idea of what kinds of features and benefits are "hot" in the user's mind, and you may also make valuable customer contacts.

- **Resellers.** It's surprising how many developers make marketing decisions without walking into a software store. Visit the front lines. Be a customer. Go into a store and ask the sales person what he or she would recommend for a particular use, and why. You'll gain insight into your competition and your own products, and you'll learn which key benefits are important to the sales people who recommend the products.

• **Industry associations and trade shows.** Finally, make sure that you get your money's worth from any industry association or trade show. Use them to gather literature from competitors. Listen to competitors' booth pitches, and pay close attention to what booth visitors ask them (don't be obvious, of course).

Again, be a customer; ask about current and future product development, and who they see as being their competition and customers. Touch base with trade associations, such as the Software Publishers Association, and ask if they have published or know of any secondary research reports of interest to you. ♦

(Editor's note: For more information about research sources, see "A Market Research Primer, Part 1" in the July 1991 issue of Apple Direct.)

Lessons Learned About Selling to PowerBook Customers

By Hank Williams,

Pastel Development Corp.

Mobile computing technology has altered the way computers can be used. The entire personal computing paradigm is changing: Modems are less expensive, networks are more ubiquitous, wireless communication is becoming increasingly viable, and notebook computers now offer the power previously available only on nonportable models.

Mobile computing is also creating many new opportunities for developers. Given estimates that Apple has sold almost half a million PowerBook computers and that it may well sell twice that number in the coming year, the market potential is enormous. Therefore, it's important to understand the special needs of mobile computing users and how to create products for them.

The success of DayMaker, our personal information product for managing to-do lists, schedules, and other personal information, can be partially attributed to the success of PowerBooks; approximately 35 percent of its sales are to PowerBook users. We therefore have developed a perspective on the Macintosh mobile computing market. What follows are some lessons we've learned about creating products for and selling to PowerBook users.

LESSON #1:

USERS WANT FULL-FEATURED PRODUCTS

PowerBook customers use their computers to do most of the same things they do with other Macintosh models—or at least they want to be able to. Therefore, a “crippled” version of software (sometimes dubbed as a “light” product) intended for use on nonportable models probably won't fill their needs. Instead, full-featured products that are as viable on nonportable models as on PowerBooks will probably be most successful. To understand why, it's important to look at who buys notebook computers.

From Pastel's perspective, there are two kinds of PowerBook customers. The first are people for whom the notebook is an only child, the only computer they own. For them the PowerBook is truly a portable desktop. Therefore, all (or at least most) of the applications they buy must be full-featured ones.

The second kind of customer is the “dual user” for whom the PowerBook supplements a nonportable Macintosh. These people use their notebooks to do only a subset of the things they might do with the nonportable computer. But because they are accustomed to using powerful computers that sit on a desk, they want equivalent capability—equivalent features—when they’re on the move. Even if the “light” version of a word processor, for example, has the advantages of using less memory and disk space, it will force customers to somewhat change how they use the product—and change is always a difficult and dangerous thing to force on an entrenched customer.

Another important observation: When the PowerBook was first introduced, the 170 model was the most successful. To us, this indicated that many early customers were not entry-level users but instead were power users who had been anxiously waiting for the new products. As you might imagine, people wanting the power of the 170 model are unlikely to buy a stripped-down word processor to run on their powerful notebook computers.

The same holds true for most other PowerBook users. That is, they are accustomed to working with notebook computers in the same way they do nonportable models, and are not likely to want stripped-down products.

Even in the context of integrated software, where the individual modules are simpler than the stand-alone competitive products, the focus when selling to PowerBook customers is not on being “light.” Instead, it is on the benefits and value that integrated products offer users (applicable to users at their desks *and* people on the go). The benefit is that data created in one module is easily incorporated in another, and that the data is automatically updated in one module when it is changed in another. The value is that the customer receives the functionality of five or six applications for one relatively low price.

Likewise, we feel that much of DayMaker’s success in both the nonportable and mobile markets has been that we offer a product that is fully functional on all Macintosh models. DayMaker is well suited to PowerBook customers because they need the capabilities it offers (scheduling, to-do lists, addresses, and note-pad functions) when they’re mobile—as much as or even more than when they’re working at their desks.

**COROLLARY TO LESSON #1:
USERS ALSO WANT POWERBOOK-ONLY PRODUCTS**

It should come as no surprise that PowerBook owners also do (or would like to do) things they don't do at their desks. (That's probably why they bought PowerBooks in the first place.) So there is an opportunity to create products designed specifically for notebook computers—for example, utilities for customizing sleep time, backlight usage, security, and other such features of the computer, or products that synchronize data between PowerBooks and other computers or networks.

However, we think the opportunity to sell software to PowerBook customers does not lie in offering PowerBook-specific products in *existing* software genres (spreadsheets, word processors, and so forth) that they are already using on nonportable computers. They probably use the same applications on PowerBooks as they do on other models.

Instead, it may be prudent to explore the many new product categories born out of how PowerBooks are and will be used. Having access to local and remote data via a modem, cellular link, or other wireless source means that people will do things that they have not done before with their computers. All of these factors create opportunities for developers.

LESSON #2:

MAKE YOUR PRODUCT WORK WELL ON THE POWERBOOK

Even if you offer a product not specifically designed for the PowerBook, in many cases you can successfully market it to notebook users (as we did with DayMaker) if you ensure that the product runs as well as possible on the PowerBook. Here are some specific suggestions:

- *Avoid hitting the disk unnecessarily.* PowerBooks “spin down” the disk when the computer has been inactive for a period, and it takes time to spin the disk up. Users become annoyed and frustrated with applications that cause this to happen often.

- *Give your application more RAM space to help reduce disk access.* The user should be able to reduce disk access by increasing the amount of memory available to the application. On the other hand, giving your application less RAM might reduce its functionality and force it to access the disk more often, but it should still work. In so many words, users with less RAM should be able to work comfortably and still be able to effectively use their applications.

- *Provide solutions to data reconciliation issues within documents used on both the PowerBook and other Macintosh models.* Users often copy a document from the PowerBook to another computer, or vice versa, and end up having a copy on both computers at the same time. Reconciliation problems can arise when they change the document on one computer and then transfer it to another that has an existing copy of the document. When they change the version of the document that resides on the PowerBook—for example, if they move the document to the other computer before the copy on the other computer is modified—there's no problem.

But if both copies of the document are modified independently, reconciliation is difficult. In some cases, copying files using some of the current file synchronization applications will not be useful. This is particularly important for information-management applications such as DayMaker, where the data chunks a user must deal with are likely to be smaller than those that are visible at the file level (such as an address or an appointment time within a file).

- *Provide keyboard equivalents for as many commands as possible.* For many people, the trackball is not preferable or convenient. You should at least offer options for users who would rather use the keyboard.

LESSON #3:

USERS WANT HIGHLY CUSTOMIZABLE PRODUCTS

Portable means personal, and personal means users want it to reflect their preferences and working styles. One thing that we believe makes PowerBook customers unique is the particularly personal nature of the product. Because users live with their PowerBooks a greater portion of the time, they need to feel that the computer works in a way that is conducive to their own usage patterns.

Our research has shown that the ability to customize a product is important to mobile users. In fact, they don't perceive that adding customizable features is adding complexity to the product. So it follows that both the computer and the software products that run on it must provide users with a wide range of options.

For example, DayMaker allows users to create personalized views of their data. They might create a custom view for "items modified yesterday" or "next week's important appointments." Our product also provides keyboard equivalents for custom commands.

LESSON #4:

GET FEEDBACK FROM POWERBOOK CUSTOMERS DURING DEVELOPMENT

You'll probably want to sell your product to PowerBook customers, even if it is primarily intended for use on other Macintosh models. Therefore, you should get customer input during product design and development.

Things that seem like details during initial product design often end up being critical flaws (or even benefits!) for users. It's critical to get feedback from them before the product is brought to market, particularly with products where a new usage pattern—such as portability—changes the customer's relationship to the product. There are likely to be unique PowerBook usage pattern issues that you aren't aware of, so this kind of input is doubly important.

At Pastel, when examining PowerBook products we don't rely heavily on research from the DOS portable market. Clearly, there is common ground between the platforms; but in our opinion, mobile computing usage patterns combined with the unique psychology of a Macintosh buyer in general (as well as the larger number of applications that the typical Macintosh customer uses) makes conclusions drawn from the DOS portable market not particularly useful.

LESSON #5:

THERE'S NO BAD CHANNEL

There's an assumption in the software business that mail order will be your primary sales vehicle because retailers aren't lucrative software outlets. While I admit that this is more true than I'd prefer, mail order generates significantly less than half of Pastel's business. We sell DayMaker at Comp-USA, BizMart, Egghead, Computer City, Fry's Electronics, Price Club, and other mass merchandisers. Therefore, the most important point we can make about reaching PowerBook customers is that, in our experience, there is no such thing as a bad channel.

We think the *best* chance to sell to a PowerBook customer is at the store where he or she bought the PowerBook, and preferably at the time the purchase is made. We've been particularly successful by selling our software in hardware dealers and other such places.

Why? We reach a customer that may not pass through a dealer's store very often (or ever again). Our logic is that, in general, there is no need to enlist a dealer's assistance to configure a PowerBook. Mostly, the product doesn't need

an external monitor and is often not purchased with peripherals other than an extra battery pack.

There's no magic to selling through this channel, but it does require effort. Buyers in these organizations are overworked, and even if you offer the coolest new product on the planet they will probably not seek you out. When you do reach them, they want a credible argument that your product will do more than sit on their shelves. You have to demonstrate that users want your product or somehow persuade the dealer that there will be demand. This usually means investing some money in programs to create demand.

LESSON #6:

POSITION YOUR PRODUCT FOR POWERBOOK USERS

Incorrectly positioning a product to PowerBook users can be as deadly as offering them the wrong product. Here are a few lessons we learned about positioning:

- *A very successful positioning message is "...the best product that also works well on the PowerBook."* For products not designed specifically for the PowerBook, the message should relate to the basic features of the product as they compare to competitive products in the same category. In the case of such products, PowerBook features should be marketed as "in addition to" features, not primary ones. Because we wanted to sell to PowerBook customers as well as to those who use other Macintosh models, this was our strategy for DayMaker.

- *If you call something a PowerBook product, it should truly be a PowerBook-only product.* Be careful when you position something as being a PowerBook product. If your product has a non-PowerBook analog, you could be creating a problem. That is, if a piece of software is called a PowerBook product (such as a word processor or a spreadsheet), a more powerful version of it should not make sense as a product for nonportable models. Make sure that if you call your product a PowerBook-something, it solves a PowerBook user-specific problem. It should not be a second-best-because-you-are-running-on-a-notebook-computer solution.

- *Make sure you emphasize the product's value.* Particularly in the current economy, value is very important. However, don't position your product such that

the customer confuses “value” with being “cheap.” This is a difficult balance to strike.

For example, some integrated products are selling very well to low-end nonportable and PowerBook customers. Even though these products offer the customer a lot of capabilities for a reasonably low price (usually in the \$300 range), they don’t seem cheap. These products are carefully positioned to communicate their value.

Likewise, we successfully introduced DayMaker for a \$99 suggested retail price. The product has a high perceived value-in-use at a relatively low price, making it attractive to a variety of users.

Also, keep in mind that value is important not only to the customer but also to the retailer, who sees software as a tool to help sell the real money-maker, the computer. You should evaluate how to best position your product’s value to the retailer (that is, how it helps or adds value to the retailer in selling PowerBooks).

LESSON #7:

PIGGYBACK ON APPLE’S COMARKETING OPPORTUNITIES AND TECHNOLOGY DIRECTIONS

It’s important to get the maximum leverage out of Apple’s developer comarketing opportunities. (For more information, see “How to Comarket New Products With Apple” in the July 1992 issue of *Apple Direct*.) This is especially true for PowerBook products; mobile computing is a critical product area that Apple will continue to exploit.

In general, if your product can help Apple sell computers in some new market, particularly at product launch time, you can reap significant benefits. This is in stark contrast to the Windows community, where inventing the software equivalent of antigravity boots would not even be likely to gain you a comarketing opportunity.

To get the greatest comarketing leverage from Apple’s efforts, you must have the right product at the right time. If you’re the tenth player to enter a market, it will be difficult to survive. Therefore, you must plan according to where you think the market will be before it gets there.

If you watch Apple's technology directions closely and take some clues from it, you'll be more likely to get to market first. If you miss the window of opportunity—and this is always a danger—you could lose everything. Your decision must, at least partly, be tied to where you want to be on the risk-versus-reward curve, and how much confidence you have in your vision. But if you take some clues from Apple's directions, you can reduce your risk and increase your chances for success.

We claim no prescience about having timed our product launch with that of the PowerBook; when we started writing DayMaker in 1989, the Macintosh Portable was available, but we had no thoughts of people on the run using the Macintosh on airplanes until the last eight or nine months of our development effort. However, we did know that there was a market for a product to organize and keep your personal information handy wherever you were. So we tried to design a product that would be the right one to fill that need, regardless of the Macintosh model it would run on.

This line of thinking was a gamble, but it paid off for us. We first heard about the new notebook computers in late winter 1991 and learned that they'd be announced that autumn. It was fortunate that we expected our product to be ready then, as well. We worked hard to make sure that it happened.

We also felt it would be important to receive additional customer exposure to our product by participating in Apple's comarketing program. After demonstrating to Apple the value our product would have for PowerBook users, we were able to participate in the product launch and related PR efforts. The benefits to us came not only from the efforts that Apple headquarters made, but also from many of its field offices that were busily proselytizing the entranced corporate customers, showing off the new computer's capabilities and the new software that took advantage of it.

So, you can see there are several special issues related to marketing to PowerBook users. The concepts aren't difficult, but the complexity of assumptions you must make to end up with the right choices can be tough.

The PowerBook market can be enormously profitable, but the spoils will go to marketers with the clearest vision of mobile users' needs and an ability to clearly translate that vision into exciting products that will capture and continue to hold their attention. ◆

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By Wendy Weinstein, International Data Corporation

The winds of change are upon us. Apple Computer has been adding products to the Macintosh computer family at an astonishing rate, expanding market opportunity for Apple developers. However, there is a substantial installed base of Macintosh computers, users who continue to require that their needs be met. One way to understand the forces in the Macintosh installed base that will drive the purchase of software or ancillary hardware is to examine the user base. Therefore, every year, International Data Corporation (IDC) conducts an audit of U.S.-based Macintosh business user sites.

The IDC user audits have detected several trends:

- Users are moving away from the aging Macintosh products, such as the SE, that currently represent the bulk of the installed base. Improved price/performance of the newer models and the increased desire to use the capabilities of System 7 are driving this movement.
- Word-processing and spreadsheet applications continue to represent the bulk of the applications used. Although graphics packages are increasing in importance, the majority of users are focused on the more immediate tasks addressed by these two primary applications.
- The use of networks is rising rapidly, as more users begin to run applications across networks rather than simply establishing an environment for the shared use of peripheral devices. However, the cost savings that come from sharing printers and storage will continue to be a strong factor driving the use of networks.
- System 7, networks, and other elements call for larger initial configurations. The increased demand for these capabilities will spearhead the drive to increase the capacity of Macintosh computers as users strive to maximize the capabilities of these technologies in order to gain real benefits from their investments.

THE PLATFORMS

Between 1991 and 1992, the Macintosh product line underwent a major renovation. These changes are evident in the Macintosh installed base, as the newer products have made substantial inroads into the share of the older products. As shown in Figure 1, models that increased share include the following:

- The Macintosh LC demonstrated the most dramatic change with a 700 percent increase since the 1991 midyear results. This gives the LC a 4 percent share of the installed base of Macintosh computers. Although the LC's share is modest, the dramatic growth speaks volumes about the acceptance of the product.
- The Macintosh SE/30 raised its share to 15.8 percent, making it the second most popular computer, although the Macintosh SE remains the most popular in terms of the existing Macintosh installed base. However, the growth of the SE/30 was modest in comparison to that of other products, only doubling its share from the 1991 midyear user audit. Now that the SE/30 has been discontinued, IDC expects that this will be the last year that this platform has such a strong position in the installed base.
- The Macintosh IIsi realized the second biggest change (after the Macintosh LC), increasing its share of the installed base to 11.6 percent. This represents a change of over 500 percent from the 1991 midyear results.
- Finally, the Macintosh IIci almost tripled its share, climbing to 11.04 percent of the installed base. This increase makes the IIci one of the top five platforms in the installed base.

The increase in share of both the Macintosh IIsi and the Macintosh IIci is directly related to the strong price/performance characteristics of these two business-class machines. Both are built around the 68030 processor, making them comparable to many 80386 personal computers, but they are marketed at prices approximately 10 percent lower than similar business-class machines such as the Compaq Deskpros.

The 1992 midyear user audit also showed big drops in total share of the U.S. Macintosh installed base for the following:

- the Macintosh SE, which fell from 30.4 percent of the installed base to 20.6 percent

- the Macintosh II, which dropped from 12 percent to 6 percent
- the Macintosh IICx, which cut its share by more than half, falling to 7.7 percent from 16.7 percent

The drop in share of these products reflects the fact that they have been discontinued. Overall, the largest share of the total installed base (20.6 percent) continues to be held by the Macintosh SE, although the Macintosh SE/30 is rapidly gaining (15.8 percent). The Macintosh LC, IIsi, IICI, and PowerBooks have taken over as the most popular products in the Macintosh line. In the mid-range and high-end products alone, the IICI and the IIsi hold the largest share (26 percent and 27.3 percent, respectively).

According to the respondents' short-term purchase plans for the second half of 1992, the Macintosh IIsi should be the strongest seller, with 10.4 percent of the sites studied planning to purchase a IIsi. The Macintosh LC and Macintosh IICI also were high on the purchase list (9.8 percent and 8.2 percent, respectively). All three products are strong in Apple's two key markets: The LC in the education market, and the IIsi and IICI with strong corporate market sales, jointly account for 28.4 percent of all planned purchases. When these three platforms are combined with the now powerful selection of notebook computers, over 36 percent of the planned purchases for the six months following the study are represented. This suggests which Macintosh models will be the most popular, and gives strong signposts to developers to guide the development of software for the near future.

At the same time, sales of the Macintosh LC, IIsi, IICI, and PowerBooks do not represent as large a share of planned purchases as in the Q1 1991 midyear study, when the Macintosh IIsi and Macintosh Classic computers combined represented 52.1 percent of all planned purchases. Instead, these products represent 16.4 percent of the current planned purchases as stated in the Q2 1992 audit. The change is likely the result of two factors. First, sales of the Macintosh Classic and Classic II decreased substantially since the initial purchasing frenzy that greeted these two computers. Second, and more important, the enhanced diversity of the Macintosh product line yields a broader range of choices to consumers. However, the continued popularity of the Macintosh IIsi and the IICI in business environments suggests that these products should continue to increase their share of the total installed base over the next few years and, if growth continues at this rate, are likely to exceed the Macintosh SE in total share in the near future.

Further understanding of the installed base follows from an examination of the two major product categories. As shown in Figure 2, the Macintosh SE continues to dominate both the low end (at 36.9 percent) and the entire installed base (at 20.6 percent). When combined with the Macintosh SE/30, these two discontinued products represent 65.1 percent of the low-end installed base. While the Macintosh Classic and the Macintosh LC should continue to increase share, having already reached a combined 12 percent in two years of shipping, the sheer size of the Macintosh SE and the Macintosh SE/30 block suggests it should be some time before these products are no longer a respectable force in the installed base.

Figure 3 shows that the Macintosh IIsi and IICI hold the lion's share of the mid-range and high-end installed base, with 27.3 percent and 26 percent, respectively. Additionally, the shift in market share toward these newer Macintosh computers is reflected in the six-month purchase plans, with the IIsi and the IICI accounting for 18.6 percent of all planned purchases. These results suggest that a broad range of products designed and introduced to meet customer demands has been well received, especially in the business sector.

HARDWARE IS NOTHING WITHOUT SOFTWARE

How is software affected by the activity in the Macintosh installed base? There does not seem to be a direct correlation between growth in the Macintosh installed base and growth in the aggregate unit shipments of software for Macintosh computers. However, Macintosh software displays reasonably steady growth.

The usage of Macintosh software and the penetration rate of the software into the installed base are highlighted by certain notable features:

- System 7. According to IDC research, although most users are aware of System 7 and at least some of its features and functionality, only 8.5 percent of the sites studied have converted 100 percent of their equipment over to System 7. However, this does not include sites that are in the process of converting the majority of their Macintosh computers to System 7.

Although all new Macintosh computers (except certain models of the Macintosh Classic) now ship with System 7, the installed base is still heavily skewed toward System 6 or earlier (currently 91.5 percent of the respondent sites). The eventual shift to predominantly System 7 sites should be assisted by two factors: the continued acquisition of newer Macintosh computers, which ship with System 7, and an increase in the conversion of applications to System 7.

- Overall, the penetration rate of System 7 is increasing rapidly. IDC estimates that although roughly 16 percent of the installed base had installed System 7 in 1991, that figure has climbed to over 40 percent in 1992. System 7's penetration should continue to climb as newer platforms replace existing products in the installed base and more software is written to System 7, but the rate of increase will be slow. However, IDC estimates that System 7 should be installed on over 90 percent of the installed base by 1996 (although this estimate does not account for the introduction of any new operating systems in 1994 or 1995). In the long run, the increasing acceptance of System 7 will drive the need for software which fully utilizes the capabilities of this operating system.

- Many Macintosh Classic and PowerBook computers are purchased as second machines. Many users copy software bought for the first machine for use on the second machine. This practice cannibalizes the potential software market and eliminates a one-to-one correlation between hardware and software sales.

Utilities represent the most commonly used software category, with over 87 percent of the users reporting some type of utility package installed on their systems. However, as shown in Figure 4, when utilities are accounted for by their individual subcategories (finders, screen savers, and so forth), word processing is found to be the most common application in the installed base, along with spreadsheet applications. (For a complete analysis of the use of productivity software, including word processing, please refer to Macintosh Research Quarterly, *Apple Direct*, September 1992).

Spreadsheets and word-processing packages currently represent the two most popular applications among business users. Antivirus packages are also relatively strong and were reported as the third most common application in both the 1991 and 1992 user audits. On a relative scale, electronic mail packages are increasingly common, as are screen saver packages. The growth in the presence of electronic mail packages is directly related to the increase in the use of networks. Antivirus packages are also likely to remain strong, especially after the Michelangelo and Jerusalem scares early in 1992. As business users increase their activity on networks and through connectivity, the need to protect their work is increased. The result is a continued high demand for antivirus software.

Another change that contributes to the different profiles of the Macintosh software installed base between 1991 and 1992 addresses how the applications are used during the course of a day or the life of a project. This is down from the 1991 data, which showed that a resounding 55 percent focused on one or two applications in their daily tasks (see Figure 5). IDC research shows that in 38 percent of the environments, business users incorporate five or more applications in the completion of their work, with only 25 percent of the respondents limiting their work to one or two applications, demonstrating a clear shift toward the utilization of more applications instead of fewer.

COMMUNICATIONS AND CONNECTIVITY

This year's user audit also examined the use of networks in Macintosh environments. In the past the vast majority of Macintosh networks were for printer sharing; that no longer holds true. The 1992 user audit shows that although over 23 percent of the sites are currently using

the network to share printers, other uses are on the rise. File sharing is almost as common, but electronic mail is more frequently a key part of the network, as is host computer connectivity.

IDC found that out of 200 sites surveyed, only 3 percent of the sites with both Macintosh computers and PCs had no networks. In fact, 8 percent of these sites reported more than 10 separate networks. IDC also found that 14 percent of the Macintosh-only sites had no networks, and that 4.5 percent of the Macintosh-only sites had 10 or more networks. This suggests that the use of networks is on the rise, thus increasing the need for network software. Word processing, database, and spreadsheets are the most commonly used network applications, with more than 30 percent of the respondents reporting these applications currently running across a network.

- The number of Macintosh computers installed on a network varied, but the most common response (29 percent) reported between 25 and 50 Macintosh computers on a single network. As users become more adept at network use, both the number of Macintosh computers on a single network and the number of networks at a given site will climb. Currently, 20.2 percent of the sites reported more than 50 Macintosh computers on a single LAN.

- Among the Macintosh networks, LocalTalk was the most common, at 63.1 percent, with EtherTalk in an additional 25.6 percent of the sites. No FDDI sites were reported in this audit. On the PC networks, EtherTalk was the most common, representing a strong 85.9 percent of all sites.

- Among those users with networks installed, AppleShare was the most common network system, at 45 percent. As shown in Figure 6, no one network operating system comes close to the dominance of AppleShare. Novell Netware 3.x is the next closest, at 13.4 percent.

THE MEANING OF IT ALL

The annual IDC audit of the U.S. Macintosh business user base highlights the impact Apple's marketing decisions have had on the users. This year's audit supports the conclusions that the popularity of the newer Macintosh computers is not only driving additional sales, but replacing older products. System 7 is helping in the push to replace the older Macintosh models. Although the penetration rate of System 7 is slow, the tide is moving in its direction. Software designed to leverage the capabilities of System 7 will both help drive System 7 sales, and will increase the market for the software as users make the transition.

Network use is also increasing, both in volume and in the sophistication of the network. While it will be some time before the majority of networks address more than the sharing of peripheral devices, expanding capabilities are improving the popularity of networks. Electronic mail is poised to be one of the next major elements pushing the use of networks.

Finally, the character of the hardware base is changing. With heavier concentration on modular, flexible Macintosh computers that are competitive in the open market for both price and functionality, the balance in the installed base is beginning to shift to the newer products. Macintosh loyalists can now have their Macintosh, and power too.◆

IDC surveys approximately 200 Macintosh user sites annually. These users are evenly distributed throughout small, medium, and large businesses across a broad range of industries in the U.S. The user audits examine buying patterns, product usage, and the six-month purchase plans for Macintosh computers and Macintosh-related products.

Figure 1: Model-by-model share of the Macintosh installed base.

Figure 3: The low-end Macintosh installed base.

Figure 4:

Figure 4: Percent of sales of Macintosh software by category as of 1992.

Figure 5: *Number of applications used daily by business users.*

Figure 6: *Types of networks employed by businesses with Macintosh computers.*

APPLE DIRECT

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