



PCTAP

Consumer Report

Personal Information Management Systems

Open Forum: Sun Workstation/DOS Windows

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PC TAP CONSUMER REPORTS

From the Editor's Desk

This is the first in a series of reports on informal studies, which we have elected to call *PC TAP Consumer Reports*, that the PC Technology Assessment staff plan to publish. These reports will present the results of users' experiences with various products that are new and relatively untested, or that currently are in the spotlight in the industry or among the EPA user community.

PC TAP Consumer Reports will not present formal findings, represent official policy, or make specific recommendations about which products you should or should not use. They are intended as a timely, informative medium through which your colleagues can share with you their experiences with selected products that you may be interested in knowing more about. We hope you find these publications readable and helpful.

This report focuses on our recently-completed study of personal information management systems, those software products that attempt to help you organize your daily activities and clean the clutter off your desks. This feature begins on page 2.

In each of our *PC TAP Consumer Reports* we also want to provide an opportunity for an interchange of information among interested users. We encourage you to submit reports of your own technology assessments, or of unique and innovative applications of current technology, that we can share with others through this medium. *Expansion of the Sun 386i Workstation DOS Environment*, an example of such a report, is included in this document. It may be found in *Open Forum*, on page 16, along with information about how you can submit material for inclusion in future publications.

We are pleased that we are able to initiate this series of publications, and we hope you find them readable, informative, and enjoyable. Your comments and constructive criticism are welcome. Our address and telephone number are on the cover page, or you may contact us by EMAIL at EPA3099.

David A. Taylor,
PC TAP Coordinator

THREE PERSONAL INFORMATION MANAGEMENT SYSTEMS

Introduction

In the Fall of 1988 Dr. Pete Finkelstein, of the Atmospheric Research and Exposure Assessment Laboratory, suggested the RTP Information Centers review selected personal information management systems (PIMS). An informal survey of information center directors, PC site coordinators, and ADP coordinators indicated widespread interest in the subject. IC directors in a number of locations indicated that questions about PIMS had increased, apparently in response to stepped-up marketing of Lotus Agenda. Consequently, during the second trimester of FY89, NRPD's Information Centers Branch conducted a study that focused on selected PIMS for the PC.

Personal information management systems represent a relatively new concept in the marketplace, and their capabilities, levels of sophistication, and costs vary considerably. Attempts to specifically define PIMS fail miserably because of the variety of features offered by currently available products. Given this lack of definition, personal information management systems are difficult to compare. And the many variations among available PIMS products make them difficult to assess using the same criteria. Vendors appear to be designing products aimed primarily at specific groups of users.

Since Dr. Finkelstein initiated the idea for the PIMS assessment project, he was consulted for recommendations of software to include in the study. He selected three products from the formidable list of those available on the market: Agenda, MemoryMate, and Tornado. Lotus Agenda, a very sophisticated product, was chosen because of the volume of publicity it had received and because of the level of interest within EPA. MemoryMate and Tornado were chosen because of their reasonable costs, simplicity, and versatility.

Users interested in evaluating the products were invited to try one or more of them and to summarize their experiences. Participants were not supplied with specific criteria, but were asked to evaluate the products based on their own concepts of what constitutes an effective personal information management system. The "free-form" approach was adopted because of the lack of agreement about the elements comprising a personal information management system.

About PIMS Software

The characteristics, capabilities, functionality, and structure of a group of software products generally referred to as "personal information managers" (their accompanying documentation sometimes calls them "personal productivity tools") are largely in the eyes of the beholder. There is a lot of versatility within this relatively new software category (the first appeared about a year ago), and a package that is just what the doctor ordered for one person may to someone else be just so much illogical technospeak.

A review of twenty-five such packages appeared in the December 1988 issue of *PC Magazine*. In the introduction to the product reviews, the writer explained what a PIMS is by comparing *personal information* with *corporate information*. In the context of a business setting, *corporate information* is said to include items like sales data, employee salary records, and customer mailing lists; repetitive data (mainly numbers) with a stable data structure. Corporate information is what spreadsheets and data bases traditionally operate on.

The *PC* article classifies as *personal information* the random pieces of information you come across regularly, like scribbled notes, phone-message slips, items written on Post-it pages, or "anything you empty out of your purse or suitcoat pockets at night that has writing on it ..." Personal information consists mainly of words, or perhaps a mix of words and some numbers. This assemblage of apparently unrelated data usually has value, and the products that introduce order into this disorderly arena in an attempt to preserve your valuable information resources are called *personal information managers*.

The functions performed by software products in the PIMS family vary from one product to another. An article in the July 1989 issue of *Personal Computing* says this "amorphous" category of software "has generated more confusion than sales" since the first of these "trendy" products appeared on the market. Some are very sophisticated, and some people consider them to be high-level programming languages. Other packages are limited primarily to note-managing functions and text searching capabilities. But they perform those functions very well, and if that's all you're after they may be just the right choice for you. Both ends of the spectrum are represented in the three packages that are discussed in the following pages.

Product Reviews

The nature of the software products involved in this study dictated an unstructured approach. As we stated earlier, participants were not provided with lists of criteria or with formal evaluation sheets to fill out. Each person was asked to simply prepare a short written summary of his or her experience with the package(s), and to offer any recommendations he or she wished to make about them. We sought participants with varying job responsibilities and with different computing backgrounds in an effort to obtain input from a variety of perspectives. While several participants had access to all three packages, everyone did not; and no specific effort was made to get an equal number of opinions on each one. Occasionally, pertinent, informative excerpts from other publications also are cited in this report.

In the following paragraphs, each of the three products selected for this study is addressed individually. After a general description of each package, the various study participants' experiences with the software are reported.

Agenda Overview

Agenda, from Lotus Development Corporation, is said by *PC Magazine* to be the "most talked about" of the personal information managers. It also has the distinction, at \$395 per copy, of being one of the costliest. After gaining a reasonable level of proficiency as an Agenda user, however, the persistent individual with a need for Agenda's processing power will probably consider it money well spent. Agenda will run under DOS versions 2.0 through 3.3 on an IBM PC or certified compatible with a hard disk and 640K of memory.

Agenda's power and sophistication set it apart from the rest of the software in the PIMS category. Those who have used it are hard pressed to come up with a quick, one-line description of what it is or what it does. You have to *experience* Agenda to get any kind of feel for it. And, according to some sources, you have to experience it for a long time (like daily for a month or more) before you begin to appreciate the orderliness it can introduce into your information management tasks. The trouble is, many casual users aren't willing to invest the time and effort required to arrive at that point of realization. This excerpt from the brochure that accompanies Lotus' Agenda demonstration kit might illuminate our point:

Agenda is for PC users who manage projects and people. Who need to keep track of a hundred things going on at once. Who view information as a resource. Who need to look at their jobs from multiple perspectives. People who view the PCs on their desks as problem-solving machines.

Agenda is for people who want to spend more time managing and less time processing information. People who recognize the competitive advantage of being able to organize their thought processes.

There are three tools Agenda relies upon to accomplish its objectives: *Items*, *categories*, and *views*. Items are free-form text strings that you enter into Agenda. Categories are user-defined item groupings that enable Agenda to perform global operations. Views are the different ways in

which you can have your information displayed. For example, if you have a to-do list in Agenda you might define an *item* view wherein the items in your list are displayed chronologically according to the dates on which they were entered. You could also define a *name* view, where all the items that relate to the person whose name you specify are displayed. The possibilities for view definitions are limited only by the imagination of the user.

Items, categories, and views are the conceptual building blocks that form the foundation of the Agenda user's competence with the product. Lotus says a revolutionary feature of Agenda is that it "thinks the way you do." However, if you don't presently think in terms of items, categories, and views, you're in for a period of adjustment before you can take advantage of this product's considerable power. In this respect Agenda is a bit like dBASE III: a novice can make good use of an application that a more sophisticated user has set up, but to really get into *programming* dBASE you need some experience under your belt.

With this in mind, it appears that Agenda is one of those products that you could "grow into." Using this approach, one might become a proficient Agenda user in phases: you could ignore its more advanced capabilities initially, and just keep simple lists and schedules. With the aid of a new "front end" called *The Activities Planner*, participants in Lotus' recent introductory Agenda class in RTP learned these functions in reasonably short order. This would allow you to quickly begin using Agenda productively, albeit in a limited fashion, without a major investment in learning all its intricacies. After gaining some proficiency, the more complex functions and capabilities could be explored. A to-do list created in Agenda with the aid of The Activities Planner appears below.

To-Do List Created in Agenda

File: D:\AGDEMO\QSTART
View: Reminders and ideas

07/13/89 08:18

Projects	People	Department	When
Meet with Mark Monday about schedule.	-Mark	-IC	-07/17/89
Give Libby a copy of the report on Tuesday.	-Libby	-RIC	-07/18/89
EMAIL Hugh about status of ALPHA project by Wednesday afternoon.	-Hugh	-WIC	-07/19/89
Call John to schedule a status meeting on Thursday morning.	-John	-RIC I	-07/13/89
Complete time reports on Friday morning.			-07/14/89
Call John next Tuesday to get a status report on Beta project.	-John	-RIC I	-07/18/89
Schedule group meeting every Thursday.			-07/13/89

F1 Help | F2 Edit | F3 Copy | F4 Done | F5 Note | F6 Move | F7 Mark | F8 Vw Mgr | F9 Cat Mgr | F10 Menu

Assuming you have the need, the perseverance, and the time to become comfortable with Agenda, by most accounts your efforts will be well rewarded. Artificial intelligence techniques are built into the software that make it very convenient in many ways. For example, suppose you have an important meeting next Wednesday that you don't want to forget about. You can create an item in Agenda (maybe in your to-do list), and type in "important planning meeting next Wednesday." Agenda converts the phrase "next Wednesday" into a real date and files it away accordingly. Then when next Monday rolls around and you pull up your to-do list for the week, your planning meeting will be listed for 07/05/89, Wednesday's date. Agenda also properly handles input for "tomorrow," "next month," "every Friday," and a variety of other similar designators.

Agenda is a sophisticated task tracker and time manager. It supports to-do lists and project tracking, and you can have it track interdependencies between tasks and check items off when they're completed. The package's text-retrieval capabilities allow you to import external documents and do searches based on string occurrences and Boolean logic. It may not be the information manager of choice for everyone, but for the individual who demands a multidimensional package with a variety of capabilities, it might be just the ticket.

User Assessments of Agenda

Not surprisingly, opinions on this product vary considerably. One reviewer, who has been using Agenda for about six months and is a big fan, reported that when he saw it demonstrated last Fall he immediately saw Agenda's relevance to the way he naturally organizes things (he must think in terms of *items*, *categories*, and *views*). Another who wanted a program that would help in organizing and presenting technical information to economists and policy analysts said, "After investing considerable time in learning to use the program and after using it daily for nearly a month, I chose NOT to continue using it." Those of our reviewers who manage lots of activities agree it's "a nice package to handle to-do lists."

There was some disagreement about the Agenda learning curve. One individual said the learning curve is "rather steep." He reported that one reason why he quit using Agenda was because he never succeeded in displaying information in the order in which he wanted it, and still doesn't know if it was because of his ignorance as a user or because Agenda just doesn't work the way he wanted it to. Another person considers Agenda easy to learn, and he found the documentation extensive and easy to read. Another called it "an incredibly powerful, full featured, unstructured data base" that combines a number of functions into "one humongous package that's just about impossible to use for anything useful." He considers the package to be a very high level programming language, but the "hardest program to learn and use that I've ever seen--by several orders of magnitude."

One of our Agenda evaluators listed what he feels are four significant shortcomings: (1) Agenda has no mathematical capabilities, even for specifying search conditions (you can't ask for all dates less than 6/30/89, for example); (2) display and printing are limited to 80-character records, so you can't build spreadsheet-like tallies in Agenda items; (3) bolding and underlining in reports is an "all or nothing" situation--you can't selectively highlight particular items; and (4) the programming language for parsing text from external files (like captured EMAIL) is overly complex. Another evaluator pointed out that, despite its ability to manipulate dates in a number of different ways, the software's apparent inability to easily deal with time-of-day makes it unsuitable as a daily calendar manager. Agenda was also reported to be slow in execution: "crunching through a data set that fits on one 360K floppy to apply new conditions takes several minutes on my XT."

Both Agenda's power and its overwhelming complexity were evident to one individual who had attended two presentations on Agenda (one for beginners, one for "advanced" users) by representatives from Lotus Corporation. Using the simplest functions to create, save, categorize,

and selectively retrieve items during the introductory session effectively demonstrated the "nice" features of Agenda. Plodding through a high-level explanation of the more sophisticated capabilities during the "advanced" session gave some insight into Agenda's vast complexity and the predicted arduous learning process that often precedes user confidence. This individual supports the opinion of the *PC Magazine* reviewer who said many users will probably give up on Agenda before they have used it enough to gain sufficient proficiency to really appreciate it.

Another user said the requirement for a "great deal of data entry and data base maintenance" was a primary factor in his decision not to select Agenda as his own personal information manager. He added, "after all, I do not crank up my computer at home to balance my checkbook, either."

There is no clear consensus among our study participants with respect to Agenda. There are those who feel that Agenda's benefits aren't worth the effort required to become proficient enough to use all the product's processing power. However, on the positive side it appears to be a very powerful, versatile product that is entirely suitable for the fairly sophisticated user who is a list maker and is willing to invest some time and effort into organizing the contents of those lists.

We have had a brief opportunity to browse through a new publication, "The Lotus Guide to Agenda," by Robert H. Flast and Lauren M. Flast (Addison-Wesley Publishing Company, Inc., \$19.95). This comprehensive 390-page volume should be a valuable reference for the serious Agenda user.

Agenda, \$395 from:
Lotus Development Corporation
55 Cambridge Parkway
Cambridge, MA 02142

Requires 640K RAM, DOS 2.0 or later.

Tornado Overview

The numbers that matter most to lots of folks--price, required memory, and time to gain proficiency with a product--are all significantly lower for Micro Logic Corporation's Tornado than for their Agenda counterparts. Tornado also does fewer things. But at \$99.95 it requires only 60K of RAM to do a whole lot of random information organizing.

Since Tornado is memory resident, the ALT-J combination makes it immediately available to the user. The package offers help options from nearly every screen it displays, and once you familiarize yourself with the way Tornado "thinks," you can find your way around easily.

It seems that each of the PIMS products needs its own structure, methodology, and accompanying vocabulary. Whereas we had items, categories, and views in Agenda, Tornado gives us windows into which we can enter our random information *notes*. And once we've entered them, we can subsequently *save, load, get, edit, and throw* them. A nice feature is the aforementioned help options: if you don't remember the correct term for what you want to do, F1 will provide a list of functions for the screen you're on, along with the key strokes to accomplish them.

Tornado refers to your groups of notes as *piles*. When you retrieve a "pile" from disk, each note (record) in the pile is displayed within a window; and Tornado puts as many windows on your screen as will fit, up to a maximum of 28. Long notes occupy big windows, short notes can be found in little windows. The windows overlap on your screen, so you can only see a portion of most of them, but often enough of each of the available windows is distinguishable so you are able

to identify the contents. The window representing the "top of the pile" (the current note) is contrasted from the others by being a different color or a greater intensity. A Tornado note pile is reproduced below.

Top: Tornado Initial Entry Screen

Bottom: A Tornado Note Pile

!!! Welcome !!!

Welcome to TORNADO - the RANDOM information processor.

!!

F1=Hlp
Note
Edit
Clear
Get
Throw
Disk
Print
Impor
Bury
Other
Form

MAIN m NOTE f 0c 7t 7p 638s 7-12-89 1:02p Ser# 62701 INS

Project #6 will be ready for final testing by the end of the month. The test group is having some trouble finding appropriate data to perform the tests they have scheduled. Maybe we can get some files from the systems group that would shake down our program

!!!

information processor.

Need to contact Jim by ation. The milestones for and we need to finish up the list before the next status meeting.

Project #3 is being scheduled for the first of the new fiscal year. Maybe we can finish it by the end of the first quarter. Find out how many manhours are projected to complete that task. Bill has the numbers.

Project #4 is currently on hold. Need a new projected schedule for this activity by the time we meet with Karla.

Project #2 is in trouble. Mary's group is tr pull it bac track, but need additi help to sal this one. get an accu status repo

Project #5 schedule. should fini time.

!!

F1=Hlp
Note
Edit
Clear
Get
Throw
Disk
Print
Impor
Bury
Other
Form

MAIN m NOTE f 0c 7t 1p 368s 7-12-89 1:02p Ser# 62701 INS

You can browse through the pile by invoking edit mode, in which the overlapping windows are replaced by a more conventional display where the notes in the pile look more like pages, but where the next page or two under the one you're looking at peek out from under the bottom edge of the "current note." Browsing through the pile is accomplished using the up and down arrow keys. Each time the up or down arrow key is pressed, the next or previous note in the pile is highlighted, or made available.

New notes are created by pressing the "n" (note) key, and then entering text into the window Tornado provides for that purpose. The new-note window is very small, but can be adjusted to any size by simply pressing the escape key from within the window, then using the arrow keys to move the window "frame" boundaries to stretch or shrink the window size. The window size automatically adjusts to the size necessary to accommodate any text you have entered when you escape out of edit mode.

A feature that many users are sure to like is the ability to conveniently import and export ascii files. You can also capture the screen image from a non-Tornado application and import it into Tornado where it can be saved, just like any other note. Another option gives you the capability to create forms. Keyword searches can be performed on your note piles too.

Tornado doesn't have the sophistication or complexity of Agenda, but it may meet the needs of many users who are interested only in cleaning the clutter from their desks. As a simple repository, organizer, and quick-retrieval tool for small and medium-size bits of random information, Tornado is worth considering.

User Assessments of Tornado

Tornado's ability to "grab" a screen from an application and save it into a memo "pile" had great appeal for one of our reviewers, who also liked the look and feel of Tornado. Two individuals liked the way Tornado displays lots of notes at one time, rather than the more conventional one-at-a-time method employed by some other packages. One particularly liked the way the user can customize the way the note piles are displayed on the terminal screen. It was also pointed out that, unlike some software packages, Tornado does not interfere with machine settings defined by other co-resident programs. In an either/or situation between this product and MemoryMate, these people give the subjective nod to Tornado.

A study participant who was looking for an inexpensive package to help him manage all the various projects he's involved in thought Tornado sounded like just the thing. He discovered, however, that Tornado is more of a random information manager (which it is advertised to be) than a project management system (which some of the literature implies it is). He's finding it useful, though, in organizing the myriad notes related to tasks and projects, and in that respect it is proving valuable as a tool in his project management toolbox.

One evaluator says he is a "pile maker" with physical notes, and he makes stacks of paper that relate to different projects he's working on. Tornado's note-pile methodology fits nicely with his inherent tendencies for information management, so it is a natural for him. He finds it's a big advantage to get the piles off his desk and into his PC. This person also reported that he was conscious of having to learn Tornado's "language" before he really became a proficient user.

A case is made in the Tornado manual for the product's word processing capabilities. A reviewer who explored this found the editor too rudimentary in comparison to other readily-available word processors, and he recommends against using Tornado for this purpose.

Just to remind us that we all have our individual preferences, another study participant found Tornado's "piles of notes" analogy sometimes got in the way of learning the product. Although it is by no means difficult to learn or use, he felt he had to work just to keep track of what was going on within the product.

Tornado, \$99.95 from:
Micro Logic Corp.
100 Second Street
Hackensack, NJ 07601

Requires 60K RAM, DOS 2.0 or later.

MemoryMate Overview

We didn't save Broderbund Software's MemoryMate until last because it's the least capable product of the three being reviewed here, we ordered the software according to price. At \$69.95, this is the least expensive package in our study. Don't be fooled by the price tag, though. MemoryMate offers a lot of bang for the buck.

Like Tornado, this product is memory resident in your machine. You activate it via "hot key," ALT-Z. When you first enter the package you are presented with a "working record," a blank screen into which you can enter text. More than 32,000 records, each containing up to 120 80-character lines of data, can be accommodated. The blank "working record" screen also displays *all* of MemoryMate's 17 commands, any of which can be executed by pressing the first character of the command name along with CTRL. Or you can escape to the command list, place a highlighted cursor on the name of the command you want to execute, and press enter to execute that command. The usual F1 help is available for all commands, and is context sensitive.

One of the nicest things about MemoryMate is its simplicity. There is very little jargon to learn, and even when commands have cute labels they make sense. For example, when you want to delete a record (yes, they're really called *records* here) you ZAP it! Technically, that may be jargon, but few people will have a problem adapting to the vocabulary of this product.

Everything you enter into MemoryMate goes into a big free-form data base. There's no sense of groupings (*categories* in Agenda and *piles* in Tornado); you just enter records containing your bits of information and save them into the data base. *Every word* you enter is indexed, and MemoryMate's strong suit is its search/retrieval capabilities. When you want to access information about a topic, you do a FIND on a keyword and all records containing the keyword are retrieved. A wildcard option is available in conjunction with keywords. A NARROW command allows you to limit (or narrow down) the scope of the search so you can home in on what you're looking for.

Suppose, for example, you do a FIND on meetings and MemoryMate retrieves fifty records—that's a lot of records to browse through. So you do a NARROW on "Friday," and the retrieved list is reduced to records containing both "meetings" and "Friday." NARROW can be repeated as many times as necessary to achieve the desired result.

When you think about the implications of MemoryMate's keyword-based philosophy, the importance of entering meaningful terms into your records becomes obvious: If you don't know the correct term, MemoryMate won't be able to retrieve your record. There's a way out of this dilemma, however, should you find yourself caught in it. You can also retrieve records based on the date they

were created, or on any "reminder dates" recorded with them. When you save a newly-created record, MemoryMate prompts you for an optional "reminder date." When MemoryMate is invoked, it does a search for all records with reminder dates equal to or less than the current date, and it retrieves and presents them to the user (see below).

Initial MemoryMate Screen (Top):

A "Found" Record (Bottom)

Find Narrow Reject Cut Ditto Paste Jump Go	F1 for Help Working Record
Save View Type In Out Hyper Zap Undo Exit	

Created: 7/12/89 Modified: Reminder: Row: 1 Col: 1 Ins

Find Narrow Reject Cut Ditto Paste Jump Go	F1 for Help 16 of 24 Found
Save View Type In Out Hyper Zap Undo Exit	

Sales Projections, Widget A

	A	B	C	D	E	F
			Jun-85	Jul-85	Aug-85	Sep-85
1						
2						
3	inquiries			120	480	1056
4	units sold			30	120	264
5	income		\$20,000	\$1,056	\$5,483	\$10,155

Bob: Note the fast ramp-up, especially of inquiries. If we can keep this up we'll be moving!

 Comment:
 Here's part of a spreadsheet cut out of Symphony right into a MemoryMate record. The user attached some notes at the bottom, using MemoryMate's built-in word-processor.

Press the grey plus key at the right of your keyboard (or F10) to get the next record, OR press ctrl-E to exit MemoryMate. (sample record)

Created: 5/9/88 Modified: Reminder: Row: 14 Col: 1 Ins

A number of options are also available with respect to date searches. You can ask for records created since a specific date (mm/dd/yy), or records with reminder dates between two dates you specify, or any of a number of other combinations. And when you want to clean up your data base and weed out records you don't need any more you can retrieve *all* records, then browse through them and do selective ZAPs.

Several additional features round out MemoryMate's repertoire. *Cut* and *Ditto* commands allow you to extract or copy blocks of text to a "clipboard," from which they can be retrieved with the *Paste* command and re-inserted into another user-specified location in the same record or another record. The capability also exists to import and export ascii text between MemoryMate records and external files, and to do the equivalent of cut/ditto/paste in that context too.

Finally, MemoryMate provides for the linking of records via *Hypertext*. This term refers to the establishment of logical connections between records based on "pointers" from one text term to another. For example, suppose you set up a hypertext link between the term "dog" in record 1 and the word "cat" in record 215. Thereafter, when record 1 is on your screen you can execute the HYPER command to jump immediately to record 215. Re-executing HYPER from within record 215 jumps you back to record 1, the other end of the hypertext link.

The advantages (and potential for confusion) of Hypertext become more intriguing when you understand that long, complex chains of records can be established in this way. Rather than returning to record 1 from record 215, for example, the linkage could be from record 1 to record 215, then to record 54, then to record 1078, and then back to record 1 to complete the circuit. Hypertext is getting lots of hype in the media these days, and MemoryMate provides an easy and inexpensive way to experience it first hand.

User Assessments of MemoryMate

If you share one reviewer's personal bias against data processing jargon (or any other jargon that gets in the way of understanding a concept or its application), then you will be delighted with MemoryMate. He found this product straightforward in its operation, with little if any effort required to learn its "language." This individual liked the way MemoryMate relies on terms that will be familiar to people with no DP experience at all. And there's never any confusion about where you are--your screen is always occupied entirely (except for the boxed-in list of commands along the top of the display) with as much of a single record as will fit. If you've done a search and found 10 records, a note in the command-list box tells you which one you're currently viewing (1 of 10 found, 9 of 10 found, etc.). The plus and minus keys on the numeric keypad move you through the records in the retrieved list.

MemoryMate's reminder feature, with its "prompt you on the specified date" function, appealed to several of our study participants. One noted that MemoryMate's capability to easily import from external files would make it the obvious choice of users who need that capability. This package's simplistic approach, simple command structure, and intuitive operations make it a good choice for casual end users.

MemoryMate, \$69.96 from:
Broderbund Software
17 Paul Drive
San Rafael, CA 94903-2101

Requires 88K RAM (256K recommended), DOS 2.0 or later.

Summary

It's extremely difficult to summarize a topic for which there isn't even a consensus definition, and as we have seen nobody can tell you *exactly* what a personal information management system is. We observed earlier in this report that it may all be in the eye of the beholder. A good catch-all descriptive phrase was offered by *Personal Computing*: "All PIMs are designed to help you organize random bits of daily information that don't fit neatly into a word processor or database."

The capabilities of these products vary widely, as we have seen, as do their price tags. Of the 25 PIMS in the *PC* article cited earlier in this report, seven were priced under \$100 and five were in the \$345-\$445 range. The remaining 13, roughly half the sample, fall in the middle ground with prices between \$145 and \$295. Two of the products we reviewed, Tornado and MemoryMate, are in the under-\$100 group, while Agenda's \$395 cost was exceeded by only one product in the *PC* study. Price appears to be a good indicator of the range of features and levels of complexity of the PIMS packages, as demonstrated in the three products we reviewed in this report.

We've discussed the features, capabilities, and costs of personal information managers in general, and we've looked at three specific products in some detail. The question the reader must now answer is "Do I really need one of these things?" The answer probably is "some of us do." Earlier we quoted Lotus Development Corporation as saying Agenda is for people who need to keep track of a hundred things at once. If you only have to worry about a handful of things, chances are you don't need software to help you do that. If you are an orderly person, if you feel like you're in control of your environment (rather than the other way around) and you're not *aware* of a need for an information organizer, you probably don't need one. Conversely, if you're one of those people whose desk or office looks like somebody mistook it for a dumpster, one of these packages might be just what you need to help you get some sanity back into your work routine.

If there is any context in which the axiom "different strokes for different folks" is appropriate, the selection of a PIMS is certainly it. Of our study participant group, those who manage lots of people and/or projects like Agenda, and it's no doubt a very good choice for them. Those of us who are interested in a PIMS only for its potential for reducing desktop clutter, as a storage/retrieval medium for notes and reminders to ourselves, can probably meet our less complex needs with a much simpler and less expensive product like Tornado or MemoryMate.

While cost is certainly a key consideration for most of us, perhaps even more important is the personality of the product, its *feel*. A recent article on desktop managers in *Strategies for Microcomputers & Office Systems* cited this as the "single most important feature (apart from functionality, of course)" of this group of software packages. In their sales literature and product documentation, some of the PIMS vendors draw parallels between the way their software works and the way the human brain operates. They like to say "our product thinks just like you do." How many people do you know who think *just like you do*?

Our experience has generally been that nobody thinks "just like" someone else. So how can a piece of software--no matter how sophisticated--think "just like" all of its potential users? Obviously, it can't ... so it would behoove anyone who is seriously considering the purchase of a PIMS to try it out carefully before making the plunge. If you like items, categories, and views, you'll love Agenda. If windows turn you on, Tornado is a likely choice. If you just want to save some notes in your computer and you don't like seeing lots of different things on your screen at the same time, give MemoryMate a serious look.

An observation made by Jerry Slaymaker is worth keeping in mind: these products will not organize disorganized people, and the benefits derived from their use will be related to the work habits of the user. That's sound advice. So don't buy a personal information manager and then expect it to do your thinking and remembering, and to clean up after you. They don't do that any more than a spreadsheet package will enter your personal budget data into itself for you. But a PIMS can help you manage the information you enter into it, and it won't forget where you put the napkin on which you wrote an important phone number or address.

From the reports of the participants in our study, and from those we have read in the industry media, most of these products do a pretty good job at what they claim to do. Your task, then, is to find the one that matches your needs and your working style.

Good luck!

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Open Forum:

**EXPANSION OF THE SUN 386i/250 WORKSTATION
DOS ENVIRONMENT**

Open Forum provides an opportunity for users to share with others their own innovations, or the results of their own technology assessments. The PC Technology Assessment Program neither verifies nor endorses the contents of *Open Forum* items, but we are pleased to offer them as a service to users.

This item is presented as an example of the type of input we would welcome from users. It describes an innovation implemented by Paul Cooper and Theresa Rhyne, of the RIC I and RIC II staffs, respectively. For more information about the procedure described, you may contact them directly.

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In the Fall of 1988, OARM conducted a study aimed at identifying a configuration that could serve as a standard workstation for Agency scientific and GIS applications. In the final analysis, the Sun 386i/250 was selected to replace the Epson Equity III+ as EPA's scientific PC. The ability of the Sun workstations to easily network with one another, to function as end nodes on a DECnet, and to support ARC/INFO while retaining the full range of PC functionality, made this an excellent choice. In addition, the Sun's UNIX operating system supports multiple DOS windows, a topic we will address further in this report.

Scientific workstations are needed primarily to support EPA's modeling and simulation needs. The major components considered necessary in these workstations are an extremely fast CPU, balanced I/O, and effective software development tools. The Sun configuration satisfies these requirements by providing UNIX and DOS processing and linkage to the VAX through DECnet, and through its ability to support DOS windows at a speed four times faster than the PC-AT is capable of achieving.

Since its introduction into the EPA environment, the Sun 386i/250 has been well received by those who have had an opportunity to use it. However, users often express a desire to have their DOS environment presented as a full-screen feature, rather than as an 8-by-5-inch window on the 16-inch (diagonal measure) workstation monitor.

In response to this expressed need, Theresa Rhyne and Paul Cooper, of the RTP Information Centers, developed a technique for displaying the Sun DOS environment as a full-screen image on a separate monitor. The only additional hardware required is an EGA or VGA video board and a compatible monitor, both of which are standard PC items that are available through existing PC purchasing channels. With these items in hand, and assuming you have a working knowledge of the Sun 386i/250, here are the steps for connecting the EGA or VGA monitor to the workstation.

1. While the 386i workstation is powered down install the board for the EGA or VGA monitor in one of the Sun's AT bus slots.
2. Turn on the workstation, log in as *Root* (this gives you system administrator privileges) and execute SunView.
3. Prepare to modify the "boards.pc" and "setup.pc" files: go to the "/etc/dos/defaults" directory and use the *chmod* command to grant the necessary read/write privileges:

`"chmod 777 boards.pc" and "chmod 777 setup.pc"`

4. The "boards.pc" file contains all the hardware port addresses and interrupt levels for most common PC/AT compatible boards. Check the user documentation for your board, and make sure the file contains the correct settings. Also, remove the pound sign (#) that precedes video board driver (EGA or VGA). Don't forget to save the modified file.
5. In the "setup.pc" file, add "EGA" or "VGA" after "boards" at the bottom of the file. Save the file.
6. Reset the permissions on the two modified files:

`"chmod 644 boards.pc" and "chmod 644 setup.pc"`

7. From the command window, run "dos -s" to update your ".quickpc" file.
8. Copy "setup.pc" and ".quickpc" into the "/home/pc" directory for each user's account.

You should now be able to boot the DOS window from the main menu. Select the *device* option from the DOS window menu and verify that EGA or VGA is a valid device under DOS, then select the *attach* option from the device menu. Your DOS window will be displayed on the EGA or VGA monitor.

A final point of clarification: although multiple DOS windows may be displayed concurrently on the Sun workstation, only *one* window at a time will be directed to the EGA or VGA monitor. A real side benefit of this technique, however, is that DOS windows are processed roughly three times faster on the Sun than on the IBM PC AT or compatible equipment.

How to Submit Items for *Open Forum*

In keeping with the PC Technology Assessment Program's objective to have the user community actively involved in TAP projects, users are encouraged to submit items for inclusion in future *PC TAP Consumer Reports*. If you have independently investigated the capabilities of a software product or a hardware component, we would like to hear from you. We'd also like you to share with others your solutions to any problems you may have encountered with a particular application or device, and about tricks, shortcuts, or unique applications you have devised. Although we can't promise to publish every contribution, we will evaluate them all in terms of their potential interest to our readers and their conformance to the spirit and intent of PC TAP.

There are no additional rules for *Open Forum* contributions, but here are some guidelines:

1. Contributions must be typed. Our first preference is that they be submitted on a floppy disk in WordPerfect format. If that isn't possible, the next best method is to EMAIL the text to DAVE.TAYLOR, EPA3099. The least preferable method, but still acceptable, is to mail a typewritten article to TAP at the address on the cover of this publication.
2. The length of your contribution will be determined somewhat by its complexity. However, keep in mind that we're primarily interested in the purpose of your study project and how pleased you were with the results, not in the nitty-gritty details of how you did it. We will publish your name, address, and phone number for those who want more details. Two to three pages is probably a reasonable maximum length. On the other hand, a paragraph containing a nugget that may be useful to others would be equally welcome.
3. All material submitted by users is subject to our editing, and you will not be given an opportunity to review the final manuscript before publication. Sorry, you'll just have to trust us. If we have questions or don't understand any part of your text, we'll contact you for clarification.

We hope you enjoy *PC TAP Consumer Reports*, and we look forward to hearing from individuals who have insights or discoveries to share with others. Thanks for your interest and your participation in the PC Technology Assessment Program.