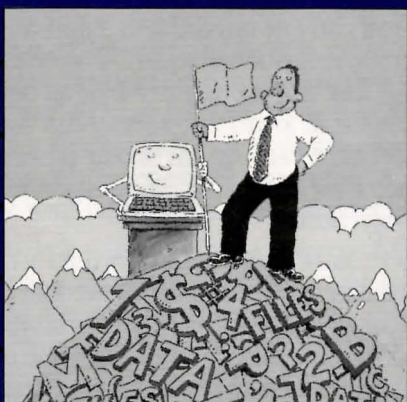# HOW TO CHOOSE AN INFORMATION MANAGEMENT SYSTEM

A PUBLIC SERVICE FROM INFOCOM

Information management software lets you organize, store, sort through, and retrieve information in a logical, directed way. Although everyone with information to organize can benefit from information management software, it's often hard to choose the program that's right for you. This booklet will help you decide just what you need.

QUESTIONS TO ASK

WHAT KIND OF SOFTWARE DO I NEED?

All business software is designed to manage information. So choosing the correct type of software depends on the tasks you need performed.

Word processors are designed for unstructured information—whatever you enter will be accepted. The main function is layout—determining how the information will appear. *Best uses: Letters, books, reports.*

Spreadsheets come with a built-in layout: rows and columns. You can put anything in a spreadsheet, but each column has a set width. The main use of spreadsheets is setting up interactions between cells (row/column location), seeing the results, and the effects of varying particular pieces of information. *Best uses: Financial reports, budgets, projections.*

Databases require more structured information than spreadsheets, but are more flexible in layout. Most databases work with *forms* or *records*—you specify the types of information that will be entered in each form (name, address, phone #, etc.). Each form holds the same pieces of information, and with a good database you can lay out this information however you want. Virtually any paper form you've worked with is analogous to a record in a database. *Best uses: Files of any kind. Examples— Timecards, Customers, Sales.*

DO I NEED A SINGLE-FILE OR MULTI-FILE DATABASE?

Databases come in two basic categories—single-file (file manager) and multi-file (relational). Single-file databases work with only one set of information at a time, while multi-file databases can simultaneously work with multiple, interrelated sets of information. For example, customers, sales, and inventory are distinct sets of information, but are interrelated (sales are made to

customers, sales affect inventory). Single-file databases are best suited for specific *tasks,* such as customer lists, while multi-file databases are best for complete *systems,* such as the order entry system mentioned above.

WHY USE SINGLE-FILE DATABASES WHEN MULTI-FILE ARE MORE POWERFUL?

Two factors have traditionally steered computer users away from multi-file databases: *difficulty and price.* Most relational databases require programming for some or all tasks. As a result, multi-file database applications have traditionally been designed by programmers or consultants. And most multi-file databases cost $500-700.

WHAT ARE THE STORAGE AND REPORTING CAPABILITIES?

For most people, the major purpose of an information management system is storage and reporting on large quantities of information. Some programs are *memory-resident,* which means that the entire program and all your information must fit in memory. This is desirable if you have a limited amount of information (it speeds up operations), but will not work with larger quantities of information.

In either case, information is only useful if you can see it. Some programs limit reporting to one format, or to just rows and columns, or else require a separate report generator for production of complex reports. The greater the flexibility in viewing your information, the more value you will get from your program.

PRODUCT SUMMARIES

Lotus 1-2-3

1-2-3 is a powerful spreadsheet program that also incorporates limited graphics and database capabilities (hence the name). As a database, 1-2-3 can only work with one file at a time, limiting it to simpler applications. Also, the entire program as well as the database must fit in memory, dramatically restricting database size. 1-2-3 has very limited reporting capabilities—all reports must consist of columns and rows (Lotus does sell a companion program, 1-2-3 Report Writer, to enhance 1-2-3's reporting capabilities. *Recommended as a spreadsheet only. Not recommended as a database.*

PFS File and Report

PFS File is a very easy-to-learn and easy-to-use file manager. PFS works with only one file at a time, which generally limits it to specific tasks (e.g. customer lists, mailing labels) rather than overall systems (e.g. personnel, order entry). PFS Report is a separate report generator that works with PFS File databases. Even with the two parts together, PFS is quite limited in calculating, sorting, searching, and reporting capabilities. PFS is also the slowest of these five database programs for most operations. *Recommended for beginning users and those with simple applications.*

Q & A

Q & A is an easy-to-learn and easy-to-use file manager with two main distinguishing characteristics: it includes a built-in word processor, and it lets you use a "natural language" (English) when selecting records. This is an easy method of communicating with your system, but it may allow for errors in program selection as "natural language" suffers from the same ambiguities as English itself. Like PFS, Q & A works with only one file at a time, limiting it to simpler applications, but it is better than PFS at reporting, searching, sorting, and calculating. *Recommended for those needing a more capable single-file system than PFS, or for those not already committed to another word processor.*

Reflex: The Analyst

Reflex is specifically designed for those needing to analyze data. Towards this end, Reflex provides two tools not found in any other product listed here: crosstab analysis, and graphs. Like PFS and Q & A, Reflex works with only one file at a time, limiting it to simpler applications. Unlike all the other databases, Reflex is memory resident—the entire program as well as the database must fit in memory. For a computer with 640K RAM, only 300K is available for data. This dramatically restricts database size: if records are 100 bytes each (fairly small), the maximum possible is 3,000 records. If records are 500 bytes each, the maximum possible is 600 records. However, because it is memory-resident, Reflex is the fastest of the database programs. *Recommended for those needing mathematical analysis of smaller databases.*

dBASE III

dBASE III is a programmable, fully-relational database system for the development of complex, multi-file applications. dBASE has traditionally been used by programmers and consultants who build customized applications for use by others. While a knowledge of programming is not necessary for *use* of the database, modification can be quite difficult. The newest version, dBASE III Plus, offers tools to assist non-programmers in database construction; however, programming is still necessary for many functions. *Recommended for those with technical backgrounds, for those developing customized applications for others, and for those hiring someone else to build their databases.*

Paradox

Like dBASE III, Paradox is a programmable, fully-relational database system for development of complex, multi-file applications. All of the comments for dBASE III are applicable to Paradox. The major way in which it differs from dBASE III is in the use of "query-by-example" for record selections, an approach pioneered on mainframe computers. *Recommended for those with technical backgrounds, for those developing customized applications for others, and for those hiring someone else to build their database.*
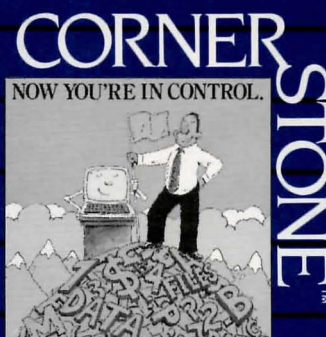
Cornerstone™

Cornerstone is a multi-file database system specifically designed for non-programmers. Cornerstone is for those who wish to develop a sophisticated, multi-file application for their own use, rather than a customized application for use by others. Cornerstone databases can "evolve" over time, as modification is fast and easy and no programming is required at any point. Cornerstone also excels at applications using many more words than figures (such as sales lead tracking or consulting), since it offers a powerful, built-in report generator, variable-length fields (so there is no need to pre-set length), efficient storage (often requiring less than half the space used by dBASE III or PFS), multiple entries in the same field, and fully searchable text fields. *Recommended for those who want to develop multi-file applications for their own use, or for those with text-intensive applications.*

QUESTIONS TO ASK	LOTUS 1-2-3
How hard is it to learn?	Moderately easy
Is it single-file (file manager) or multi-file (relational)?	Single
Is the database memory-resident or disk-resident?	Memory
What are the reporting capabilities?	Columns and rows only.
Does it require programming to build a database?	No programming
How well can the database work with text?	72 character limit (per cell).
Price?	$495.

HOW TO CHOOSE
A DATABASE MANAGEMENT SYSTEM

PFS FILE & REPORT	Q & A	REFLEX	dBASE III	PARADOX	CORNERSTONE
Very easy	Easy	Moderately easy	Difficult	Moderately difficult	Moderately easy
Single	Single	Single	Multi-file	Multi-file	Multi-file
Disk	Disk	Memory	Disk	Disk	Disk
1 layout only with PFS File. Columns and rows with PFS Report.	Very flexible.	Very flexible. However, some reports require exiting program to use a separate report generator.	Very flexible. However, some report features require programming.	Very flexible. However, some report features require programming.	Very flexible. Even allows variety of forms for data entry.
No programming	No programming	No programming	Programming required for many tasks.	Programming required for some tasks.	No programming
Can store long text fields, but inefficiently and with poor searching.	Limited to 240 characters with inefficient storage.	Limited to 255 characters. Efficient storage.	Can store long text fields, but inefficiently.	Limited to 255 characters with inefficient storage.	Up to 4000 characters per field, with full searching and efficient storage
$265 (File and Report)	$349.	$149.95	$695.	$695.	**$99.95**

Cornerstone is a trademark of Infocom, Inc. Other brand and product names are trademarks and/or registered trademarks of their respective holders.

CORNER STONE™
NOW YOU'RE IN CONTROL.

INFOCOM

125 Cambridgepark Drive
Cambridge, MA 02140