

SYMPHONY IN SOFTWARE

In the first instalment of this series we considered the principles behind integrated software design. Now we look at Lotus's 1-2-3 and Symphony, and Psion's Xchange, three packages that are designed for large business systems but whose techniques will soon be applied to lower-priced machines.

As we have already seen, integrated software requires an environment in which the user has instant access to all the different tasks that may be required, where operating procedures remain the same no matter which application is being used, and where information may be moved freely between different applications. There are many different ways of achieving these aims.

Lotus 1-2-3 uses the familiar spreadsheet format, in which figures and formulae are entered into a matrix of 'cells' and can be freely amended and instantly recalculated. However, 1-2-3 offers many extra facilities and can be used for much more than just financial forecasting and analysis. The spreadsheet cells may be used to store information such as names and telephone numbers as well as numeric data, so a specific area of the grid may be used as a table containing

relevant details — for example, a list of clients and their associated account numbers. As 1-2-3 offers functions for searching for and reorganising such information, this grid area may in effect be used as a small database. It is also possible to take a set of cells containing numeric data and use 1-2-3 to display this information in the form of different types of graph, thus removing the need for a separate business graphics program. Finally, 1-2-3's text-handling capabilities mean that it can be used for memo writing, although memory limitations preclude its use as a true word processor.

This combination of different facilities means that 1-2-3 is the only program that many users ever need. Because all the information for different applications is contained in a single spreadsheet, it is easy to achieve results that would be impossible with traditional programs. For example, let's assume that a 1-2-3 user operates several different newsstands in different parts of a large city, and needs to record weekly, monthly, quarterly and annual sales figures for each location. This is best done by placing the location of each stand and its sales figures into a spreadsheet. Formulae are written in such a way that the only figures that must be changed by the

Symphonic Variations
Lotus's Symphony achieves its integration by turning all of user memory into a giant worksheet, and allowing access to the stored information via various screen windows. These interpret the data according to their program function — word processor, database, spreadsheet or graphic display. This solves the problems of data exchange, but demands large amounts of RAM

Symphony

Database

Main Worksheet

Eskimo Island Government Income & Expenditure				
Economic Trends				
	1950	1960	1970	1980
Income Tax	62	78	91	109
Corporation Tax	12	19	9	16
HBT	0	3	17	33
Customs Duty	9	15	3	8
Other	23	21	7	4
Total	106	136	127	170
Defence	9	14	15	25
Health Care	26	37	36	31
Education	19	29	33	38
Social Services	8	16	27	30
Police	17	16	17	25
Trains & Rail	18	9	5	10
Total	97	121	133	160
Surplus/Deficit	9	15	-6	10

Graphics Display

Word Processor