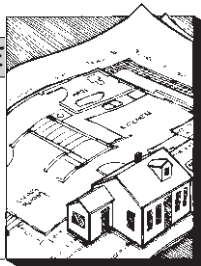


Coping with Office Automation

by Gordon F. Tully



Our office is heavily into computers: we have five machines and ten employees. Everyone uses a computer nearly every day. We couldn't do without them, especially since we have chosen computers in lieu of a secretary. (Our bookkeeper/office manager answers the phone, with help from the office person.)

I am the chief computer addict in the office, because of my technical bent and because the Army taught me how to type fast. Not everyone shares my enthusiasm. I will try to present a balanced view of the ups and downs of computers in an office with limited resources and with varying degrees of interest on the part of the workers.

Right now I am forced out of the office, where two architects are using our two Kaypro PC clones—and the office manager, has exclusive rights to our first and slowest PC, a Compaq portable. (It's "portable" if you have a strong back and remember to park the hard disk before moving it.) My partner, Jerry Ingersoll, has a Macintosh in his office.

So I am using our CAD system's NEC APCIII—a rather costly word-processor. The NEC keyboard feels good, but has the Caps Lock button between the "A" and the Control key, "so i AM CONSTANTLY going into caps ACCidentally."

Jerry is not a good typist—hunt and peck—and is convinced he could never get up to speed on Wordstar or any other PC word processor. So he uses the Mac, which works just fine. Being a graphic system, it is keen for architects. You can almost start to work without reading anything. However, it drives me nuts, because I haven't had time to learn how to use the keyboard to edit, and the mouse is agonizingly slow.

Wordstar is our office word processor, not because it is so terrific, but because it came with all our other software and is the one everyone knows how to use. It has lots of problems, but is very fast. The new Professional 4 version solves many of its most annoying features—has an Undo command, uses the

backspace like every other program, etc.

The CAD system has so far not been a great success. We have a proprietary, enhanced version of AutoCad. Unfortunately, their documentation was not very good, and the glitches in the earlier versions of AutoCad caused their proprietary Lisp programs to crash. Furthermore, some of the cleverest macros in the proprietary package were ways to work around defects in AutoCad which were corrected in version 2.5.

Although hardware and software are not free, their cost is not a major issue. The \$600 a month we spend owning a CAD system is pretty small beans compared to a payroll of \$20,000+ a month, especially if the CAD system ultimately improves productivity. The cost of training people, on the other hand, is substantial, on the order of \$5,000 per person in lost time and classes; but it is a one-time cost. Even if you lose trained people, you can now replace them with trained people who have left other offices.

Part of our monthly cost is service. Without someone out there to call when problems arise, you will simply stop using a CAD program. A CAD system is so complex that bugs are rampant in the system. You need someone to work you around them and to help you install improved versions of the software. You also need someone to yell at when things get really bad. Our proprietary system provides very good service.

I am sure that no CAD system made will let the operator beat a good draftsman on the first drawing, even leaving aside lettering and hatching, which are weak points in most CAD systems. But use the drawing a second time, replicate a plan, or make changes, and the CAD system begins to be worthwhile.

We at first tried using CAD simply to draw plans, with lettering and dimensioning done by hand (the AutoCad dimensioning system is very frustrating to use). But then later changes also have to be made by hand, thus losing the prime advantage of a CAD system. So now when we do a CAD drawing, it is completely

CAD right up to the last minute, when hand changes are inevitable.

One can work around this problem by using pin-drafting, which can combine hand dimensioning and lettering with computer drafting. But pin-drafting is itself a complex technology; we are having enough trouble learning to use the CAD system without adding more complexity.

Our CAD system seems to work very well for multi-story buildings, motels, garages and other repetitive buildings: But for the small, one-off buildings we tend to do, our CAD system is not very helpful. We don't even find it useful for low-budget tenant improvement work, because things change too fast to pick up on the CAD system, and our owners don't seem to need corrected as-built drawings. We don't do facilities management, where I understand one can make good use of CAD systems.

CAD software and hardware change so fast that it is well to ignore disgruntled comments by users of some of the larger, older systems. Having invested hundreds of thousands of dollars in a disappointing system, it is hard for these users to believe that a PC-based system for \$20,000 can outperform the old klunker. They tend to badmouth the whole idea of CAD, which is silly and shortsighted, since in a few years we will all be doing CAD work for everything except houses and monuments.

But it is well to remain skeptical until you find a system that does everything that you want to do, goes like hell, is relatively easy to learn, and comes with accessible service. Soon, but maybe not right now.

Besides the word-processor and CAD system, the other program we use all the time is VP Planner, which is an improved clone of Lotus 1-2-3. I am beginning to use our Reflex database manager, but up to now the spreadsheet has done all the data shuffling. VP has an elaborate 5-dimensional database system, but after a little trial, I found it too cumbersome to use in my practice.

Our other indispensable program is the accounting system. It was specifically designed for the peculiar ways architect's keep books and manage projects. But the program is old, and therefore not very user-friendly, with an obsolete menu and report-generating systems. And like most accounting-oriented programs, it fails to give us the speedy feedback on job progress we need, so we have to supplement it with other project-management tools. I trust that new, improved versions of the program will move us into the late 20th Century. Even with the bad features, however, it's a terrific help. To supplement it, we are developing a Reflex database to translate our time cards into usable job analyses within two working days.

Most users, including us, never begin to tap the enormous power of today's PCs, because it is impossible to find the page in the manual that explains the appropriate command. And because of the vast number of choices available, even simple tasks require making the correct entries in several elaborate menus. If you make a wrong entry, strange things may happen.

A typical case occurred when one of our printers—the Okidata which came with the CAD system but is

now working with one of the Kaypro's—started substituting an Umlaut O for a double vertical line. (Umlaut O's make very poor borders.) It took an hour and many phone calls to uncover the problem: someone had accidentally changed the printer set-up menu so that the entry under Lang (Language) was Sw; the computer was writing in Swedish!

We have had lots of similar problems with software and hardware, along with the inevitable hardware breakdowns and software bugs—the kind of things that would drive you to insanity without an expert to call on. We luckily have such an expert, who troubleshoots for us as a favor.

Without him to guide us through the hard spots, I don't think we would be so deeply involved in IBM-compatible PCs. (Our Mac seldom gives us any trouble.) We also have an intelligent, helpful and friendly dealer who got us through some difficulties with our Kaypros.

Don't even think of getting involved with any kind of computer, especially IBM-compatibles, without intelligent and responsive user support. Increasingly, you can get good answers to basic questions on the phone from software manufacturers, but they can't help you much with complex problems.

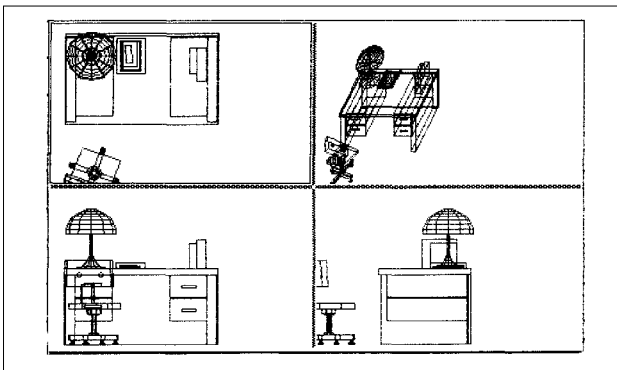
The power and universality of systems based on MS/DOS or PC/DOS probably make them unbeatable. But if I had it to do over again, I would be sorely tempted to go Macintosh. When I get a beautifully decorated letter from a friend, done on a Mac, my mouth waters, and I regret the prosaic, business-school, practical and visually boring stuff which pours out of our IBM clones.

The issue is moot, however, because we are committed to IBM clones, and are looking for PC numbers five and six. We are thinking about buying a Hewlett Packard laser printer, which will help bring Mac-quality graphics to the PC.

Regardless of the machine, we have bought into the computer revolution, and I personally have no regrets. Whenever I worry that we have made a mistake, all I have to do is run a manual spreadsheet, do a letter on the typewriter, or look at old monthly financial reports, and my enthusiasm returns.

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A CAD's-eye view of a desk and chair from four perspectives.