Looking at Electronic Schedulers

by Patti and William Feldman

Most manual scheduling methods use Gantt or PERT charts (or both) as the primary means of displaying a schedule. Both are visual tools that make it easy to see the entire schedule for a project at a glance. A Gantt chart is basically a bar chart of activities along a linear time scale. It contains a list of discrete tasks, such as "Frame exterior walls," and horizontally graphed bars that represent the amount of time the task will take to complete. A PERT (Program Evaluation Review Technique) chart displays tasks as a series of interconnected boxes that form a graphic picture of the relationships between tasks.

Computerized scheduling has several advantages over a manual system. Not only can you build a schedule faster and easier on a computer, but many scheduling programs also provide supporting detail, such as manpower allocation schedules and cost tracking, which would be difficult and time-consuming to produce manually.

Microsoft Project for Windows 3.0

($695) requires an IBM-compatible 80386 processor, DOS 3.1, Windows 3.0, 3 MB of RAM, and a hard disk. A non-Windows version of Microsoft Project is also available. For more information, contact Microsoft Corp., One Microsoft Way, Redmond, WA 98052-6399; 800/426-9400.

SureTrak Project Scheduler 2.0

($495) requires an IBM-compatible 80286 processor, DOS 3.1, 640k of RAM, and a hard disk. For more information, contact Primavera Systems, 1574 W 1700 S, Salt Lake City, UT 84116; 800/423-0245.

Quick Schedule Plus 3.1

($99.95) requires an IBM compatible processor, DOS 2.0, and 512k of RAM. A hard disk is recommended but not necessary. For more information, contact Power Up Software, 2929 Campus Drive, San Mateo, CA 94403; 800/851-2917.

And a computer can quickly make crucial calculations, such as "float" — the amount of time a task can be delayed without affecting the project's completion. Finally, electronic schedulers allow you to quickly update a schedule to reflect actual job progress, and can present schedule information through a variety of reports.

While the three scheduling programs reviewed here differ in specific features, any one can prevent confusion and logjams, and help put an end to "seat-of-the-pants" project management.

Microsoft Project for Windows

The best way to build and manipulate a schedule is graphically. Because *Microsoft Project for Windows* uses the Windows graphical user interface, it's much easier to use than other project management programs, for both simple and complex scheduling. For example, you can use a mouse to extend a task bar in a Gantt chart or rearrange task boxes in a PERT chart. The Windows interface also makes it possible to customize features for entering information and setting up screens to suit your individual work style. For instance, you can create on-screen task "buttons" in the "tool box" to reproduce the keystrokes for the actions and commands you use most frequently.

Project is especially useful to beginners because it provides an interactive help tool called "Planning Wizards," which gives you on-screen advice on how to create and manipulate a schedule. This makes it easy to assign resources (personnel) to a task, for example, and check for resource conflicts (scheduling the same person to perform two different tasks at the same time). Planning Wizards also helps you to "level" resources — delay tasks until resources are available — using all of the information you supply about task interdependencies and priorities.

As with many scheduling programs, *Project* lets you work in both directions — either *from* a specific start date or *toward* a fixed deadline. Along the way, it provides sophisticated reporting, graphing, and printing functions to help you evaluate the schedule. By viewing planned versus completed work, for example, you can spot cost overruns quickly and untangle scheduling snags. Over a dozen special filters let you display or highlight groups of tasks and resources in different ways.

SureTrak Project Scheduler

SureTrak is a well-designed, mid-range critical path scheduler that, for a DOS-based program, uses graphics well. It lets you assign resources to specific activities (although there is no automatic resource leveling), and tracks the schedule based on "Activity-on-Node" diagramming, which lets you define relationships between overlapping and nonoverlapping activities. The diagrams create a time-scaled network that connects each activity to the critical path, giving a clear view of crucial schedule dates and the relationships among activities.

SureTrak has good sorting and filtering capabilities to let you narrow the scope of the information presented on reports and graphs, and other operations involving a schedule. An "update" feature calculates a project's progress, then compares the original to the revised schedule and adjusts the "cost-at-completion" forecast. In fact, SureTrak is the only program reviewed here that can do cash flow forecasting. The program can compare money expended to money earned, and can analyze accrued costs, payments, and billing patterns to help you determine whether you are in the red or black at any point in a project. Many contractors use these features at the bidding stage to see if a project will actually produce a profit.

The manual is difficult to decipher at times, but it explains the basics of how to use precedence-based scheduling techniques to plan and manage projects. An on-screen tutorial also helps you learn to build a schedule, produce reports, track and update costs, and generate graphic presentations of the schedule, resources, and costs.

Quick Schedule Plus

The easiest of the three programs to learn and the simplest to use is also the least expensive and the one with the fewest features. *Quick Schedule Plus* is designed to establish, track, and communicate project scheduling, but it doesn't let you manipulate the data. It lays out a Gantt chart schedule quickly, however, and for many contractors, that may suffice. As with the two other packages, the key parts of the schedule are the tasks and the milestones (critical events in the schedule, such as the start of a project or the completion of a specific phase of construction). One nice feature of *Quick Schedule* is the ability to display separate task bars for a single task to designate completed and uncompleted work. You can also enter up to 20 lines of text on a "note card" attached to each task, and print the message either on the schedule or separately.

Quick Schedule lets you work backwards from a preset deadline to see how the timing for all tasks will work out. If you can't delay the deadline, you can juggle other elements, such as manpower allocation, order of work, and the length of time required by individual tasks, to establish a schedule that works.

Unlike some of the high-powered scheduling software, *Quick Schedule* does not perform calculations, link tasks, or prepare a lot of charts, and every entry must be entered manually. But when all you need is graphic representation of your work schedule, this program fits the bill. ■

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Computer Bytes

Intuit has released a payroll program called QuickPay 2.0 as an add-on to its popular Quicken accounting software. According to the manufacturer, the program allows for nine user-defined deductions, which it calculates along with tax withholdings. It prints payroll checks and reports on wages and deductions by pay period and year-to-date. QuickPay lists for $59.95 and requires Quicken version 3.0, 4.0, or 5.0 ($69.95). For more information, contact Intuit, P.O. Box 3014, Menlo Park, CA 94026; 800/624-8742.

An energy analysis program called REM/DESIGN calculates total annual energy consumption for heating, cooling, and domestic hot water. It breaks down the analysis into components (like walls, windows, and air leaks) and can perform a side-by-side comparison of two different houses. A complete review of the $395 software appeared in the September 1991 issue of *Energy Design Update*. For more information, contact Don Frey, Architectural Energy Corp., 2540 Frontier Ave., Suite 201, Boulder, CO 80301; 303/444-4149.