STATE-OF-THE-ART CONTRACTOR

Simple Scheduling

by Craig Savage

Everyone agrees that you need a schedule to successfully run a construction job. But what kind of schedule works best — a detailed critical path or a simple bar chart? Should a schedule be updated regularly? If so, how often?

Start Simple

Every construction business is different, so it's impossible for me to give advice that fits everyone's scheduling problems. I can, however, recommend that you start with a simple application that you and your employees will feel comfortable using.

I say this because I have seen too many builders buy powerful Critical Path Method (CPM) schedulers and then use them very little or not at all. I'm not belittling CPM programs — you need one if you're building a nuclear power plant or scheduling production of the Polaris submarine (for which CPM was invented). But if you are building one or two houses at a time, or have several remodeling jobs going at once, less is more when it comes to scheduling software.

Use Your Estimate

Ironically, most builders already have the beginnings of a schedule without knowing it — their estimate. Most builders compile their estimate in the natural order of construction — site work is done before the foundation, which is done before framing, and so on. In fact, programs like McNail and BuildSoft (a new Windows program that uses the schedule as the basis for job cost) both use estimate information to create a schedule.

I use a spreadsheet to accomplish the same thing. I add one more column to my cost estimate spreadsheet and use it to hold information about the duration of the tasks listed in each row or group of rows. Then I export the tasks and their durations to a scheduling program. I use Microsoft Excel for my estimate and Microsoft Project or Mac Project for my schedule. These programs let me link the estimate to the schedule so that changes in one will be reflected in the other.

Drag-and-Drop Scheduling

Microsoft Project, however, is probably more scheduling power than most of you need. Even though the program is simple to learn, it has far more features than you will ever use, and they'll just get in the way.

So I recommend looking at *FastTrack Schedule* from AEC. It combines the simplicity of drag-and-drop bar graphics with more sophisticated outline entry, linked events, and duration calculations.

Building a schedule. When you start a new schedule in FastTrack, the display presents you with a blank piece of "graph" paper. Down the left side, you can enter tasks as a hierarchical list or outline. The right side displays task duration in a Gantt chart — a series of "activity bars" stretched out along a time line (Figure 1).

There are a couple of ways to add tasks to the outline. You can type in a start and finish date, and let FastTrack draw the bar graph and calculate the duration of the activity. Or you can drag a bar across the graph and let the program calculate the start and finish dates, and duration. With this handy dual approach, you can either visualize your schedule as you build it, or simply import a task list and let the program do the drawing for you. In actual practice, of course, you will probably use a combination of outlining and drawing.

When two tasks are related to each other — for example, when the foundation must be completed before framing begins — it's easy to establish the relationship using the outline tool. To subordinate one task to another, simply drag the task under and to the right of the parent task and drop it there.

FastTrack Schedule *(version 2.1, $279) for IBM-compatibles will run on any PC that supports Windows 3.1. Minimum requirements for the Macintosh version are a Macintosh Plus running System 6.0. For more information, contact AEC Software (22611 Markey Court, Building 113, Sterling, VA 20166; 800/346-9413).*

Linking, locking, chaining. FastTrack separates itself from other drag-and-drop Gannt chart programs with its ability to *link*, *lock*, and *chain* activities into dependencies and sequences.

A link establishes a relationship between two activities and can be made in one of two ways. A "hard" link connects two dependent activities such that if one activity changes its duration or start date, the dependent activities shifts accordingly. With a "soft" link, the dependent activities change only if the linked activities begin to overlap.

Locked dependent activities are fixed to a specific date. This protects

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Construction

Activity Name	Start Date	Finish Date	Fiscal Year 1993 / 1992 / Second / Third	Duration (Weeks)
Construction Documents				
Structural Reinforcements	8/2/92	9/13/92	Final approval will be granted by Hank using corporate plate #0998	6.00
Template Prep for Engineers	9/2/92	9/30/92		4.00
Permit Application	10/18/92	11/15/92		4.00
Bidding/Contract Award				
Bid & Award Structural Reinforcing	10/4/92	11/22/92		7.00
Review Proposals	11/1/92	11/29/92		4.00

Quarter 2 of 4 | Quarter 3 of 4 | Q
1992

Figure 1. *Scheduled activities are listed as an outline down the left side of the display. The right half of the screen displays the schedule as a Gantt chart — a series of duration bars along a time line.*

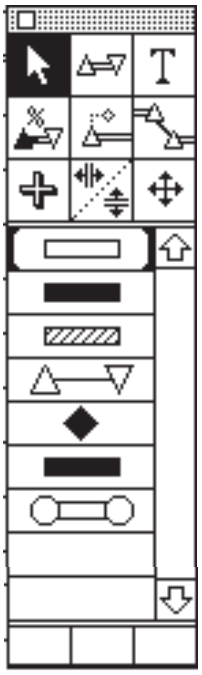

Figure 2. *By choosing the appropriate icon from the tool bar, you can easily rearrange tasks, establish relationships between them, and change the way tasks are displayed.*

important deadlines from being shifted accidentally. Finally, a set of activities can be chained — automatically put in a sequence that removes any overlap or lag time between them.

FastTrack also lets you compare the projected schedule to actual performance. Using the "percent complete" tool, you can superimpose actual progress over the duration bars in the Gantt chart. To update the schedule without having to key in lots of data, you can drag-and-drop the bars to represent actual progress.

Good looks. Customizing the look and scale of a Gantt chart in FastTrack is simply a matter of selecting the icon you want from the tool bar (Figure 2). The graphs can also be embellished with anything you can put on the Windows clipboard, including text, pictures, and imported graphics.

All in all, FastTrack Schedule is the small builder's dream when it comes to quick, easy-to-use scheduling that's "powerful enough." ■

Craig Savage, a longtime builder and computer user, owns Savage Co., in Carpinteria, Calif., and publishes Macintosh Construction Forum *and* Window on Construction.

If you have a question about computing in construction, address it to State-of-the-Art Contractor, JLC, RR#2, Box 146, Richmond, VT 05477.