



Handling delays in a project schedule (Part III)

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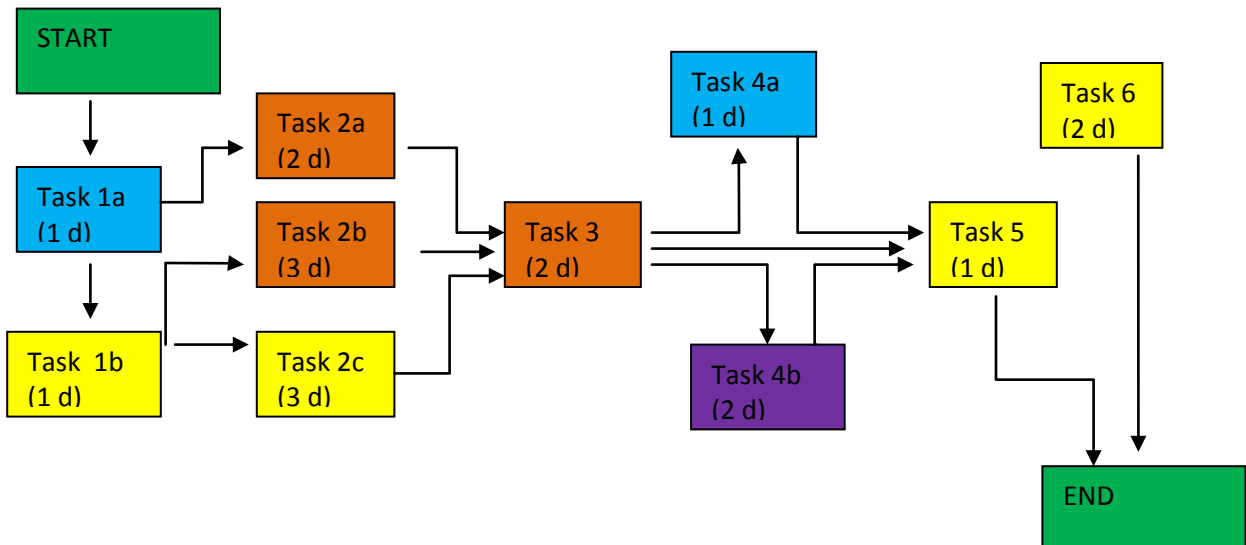
This is the second part of a three part article discussing “how does a project manager intelligently handle delays?”



Last article we focused on acknowledging the natural flow of a project which includes periodic speed bumps and roadblocks. In today’s article we’ll focus on using critical path analysis to assist with project management. Diagramming the critical paths of a project accomplishes several things:

- 1) Identifies imaginary dependencies
- 2) Highlights invisible bottlenecks
- 3) Allows you to detangle the issues before they materialize.

Take a look at the below flowchart example:



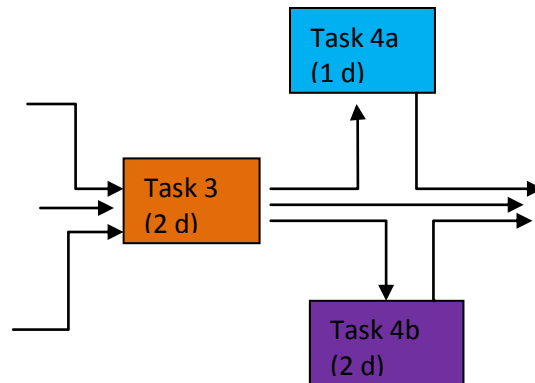
Critical Path Identification:

By taking the time to flowchart your tasks, which items can be conducted in parallel and which needs to be done serially (i.e. has some dependencies among them). By plotting out the parallel tasks in columns and the serial tasks in row, you forecast how long this current plan will take to execute.

At first glance, you may think that it will take a maximum of:

1 day to execute Task 1 list; maximum of 3 days to execute Task 2 lists; maximum of 2 days to execute Task 3, 2 days for Task 4 lists, 1 day for Task 5 and 2 days for Task 6. This totals 11 days.

But from the chart, you can see that there are three arrows going into and out of Task 3. This is a tale-tell sign that you have created a bottleneck. Task 3 cannot start its coding duties until all three of his previous tasks have completed and been delivered. Also, the rest of the team is in a 'stop production' mode until Task 3 is completed. This is something we need to 'nip in the bud' before any resources, design specifications and develop clocks are started.



Coding resource allocation in your Critical Path Charts:

Another helpful trick is to color-code your resources directly into your Critical Path Charts. In this example, each developer or resource has a different color assigned:

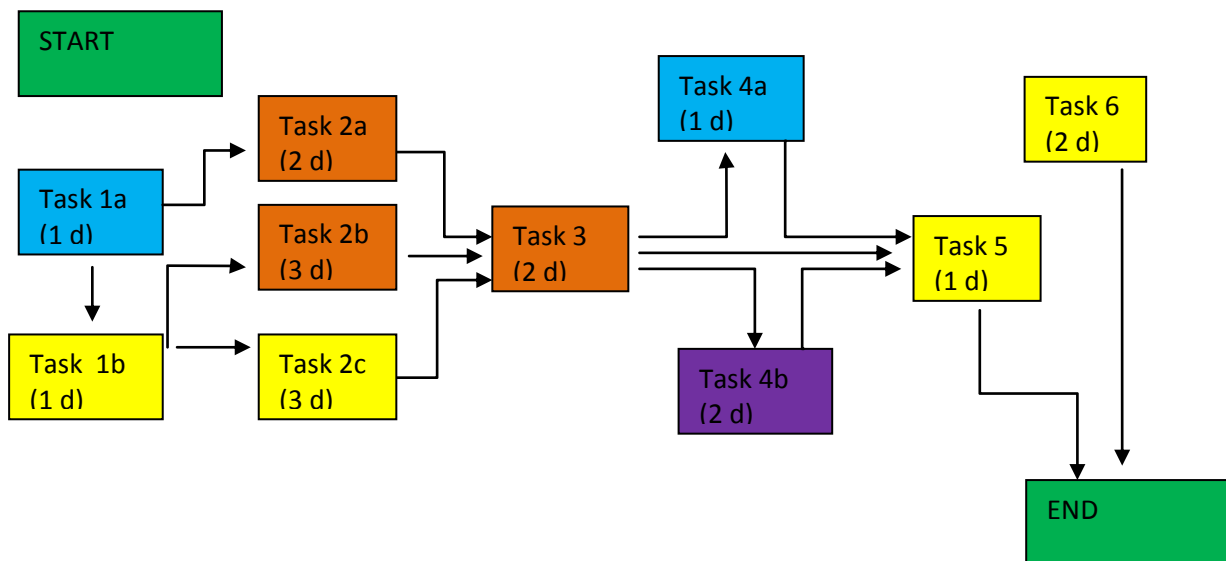


Once you have color-coded your critical path charts with your resources, you can now re-evaluate the time it will take your team to complete the task. You now see that (although your

original estimate was three days to complete Task 2 lists) it will take at least 5 days to get through the Task 2 iteration because Dave is assigned to both Task 2a and Task 2b. The tasks themselves are not dependent upon each other (and therefore **could** have been done in parallel), Dave can only concentrate on one task at a time.

Once you have identified this issue, you can choose to:

- 1) Add time to the schedule
- 2) Assign one of the Tasks to another resource
- 3) Split and isolate specialized functions into separate routines, and have other people (not familiar with that specific technology) just call those specialized macros or routines.



By color coding our resources, we can visibly see when we are under or over utilizing our people. We can quickly see that perhaps we can split some of Dave's duties in phase Task 2 to Dianne.

Since we have already identified Task 3 as a potential bottleneck and risk, we can investigate splitting that task into mini-tasks and assign to Dianne or Deek.

But what if Dave is the only person that can do this work? Not to worry. There are still things we can investigate to detangle Dave from this resource bottleneck.

For instance: If Dave is the only person that has Sequel Server knowledge, then isolate all the Sequel Server items from the rest of Task 3 goals. Have Dave create re-usable subroutines in which Dianne and Deek can call upon to accomplish the rest of the activities. Dianne and

Deek doesn't need to know exactly how the database works underneath. They only need to understand the essence of what they are trying to accomplish with the code and use the proper function calls.

Identifying imaginary dependencies:

The last gift that critical path analysis presents us: highlighting imaginary dependencies. In this example, Task 6 is scheduled for the "end-game" of the project only because it isn't needed until the end-game. But, once you map out the workflow and the true dependencies, you see that it isn't actually dependent on any predecessors' task. This is a great advantage to the project manager. He can now use this task when the project hits an unexpected delay or speed bump. When code is delayed, resources can be using that time to work on Task 6 without affecting the big-picture schedule or delivery dates.

Conclusion:

This is just a quick review of how developers, testers and project managers can make good use of a color-coded critical path system. It's a great way to map the workflows, identify imaginary dependencies, and highlight bottlenecks before a project even starts.

In the last three articles, we presented some tools to help the developer, tester and project manager to adapt to the natural flow of a development product life cycle. Once again, the trick isn't to stay on track. The skill is to seamlessly get back on track when we wax and wane.

About Laura Lee Rose

Laura Lee Rose has been in the software and testing industry for over 20 years. She's worked with such companies as IBM, Ericsson, Staples, Fidelity Investments and Sogeti in various client advocacy and project management roles. The techniques she used in her business coaching and client advocacy work saved these companies both time and money, which resulted in on-time, quality product delivery with higher client satisfaction.



Even though Laura excelled in the corporate environment, she felt a calling toward something more. Laura now uses her time management, work life balance and personal development skills as a life coach and Corporate Exit Strategist. Laura Lee Rose helps people blend their goals and dreams into their everyday lives. Laura uses creative transition strategies to help her clients realize what really matters to them. Combining inspired action with practical, tangible techniques easily lead you toward more autonomy, freedom and balance.

If you are ready for your next chapter, learn more about Laura and her products at www.LauraLeeRose.com