Faster, Better, Cheaper

Notes for Dohn Kissinger's
Presentation at IEEE EMS Meeting

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Introduction

Dohn Kissinger's talk on "Faster, Better, Cheaper", was presented at a combined AIAA and IEEE EMS Meeting in January 2000, but his presentation is just as applicable at any time. The actual paper is contained in a .pdf file that is zip archived with these notes. Here he discusses the question that plagues many project mangers, is it possible to create a new or upgraded product at lower cost, with improved features and on budget? This is the ideal for any project, but is particularly difficult to achieve in development projects.

It is my belief that some of the ideas presented here, followed with diligence, can produce a better project outcome. These notes require following along with the companion slides, so it is advisable you open that presentation, while reading these notes.

How It Is

The slides 3 and 4 introduce the idea of what can be done for "Project Disasters". They are self-explanatory.

A Potential Solution

Slide 5 introduces the ideas of adding a "contingency" factor to help keep projects in control. Slide 6 introduced an exercise for the audience, and is not relevant here.

Slide 7 illustrates a project plan with an example, based upon the use of estimates that are Optimistic, Most Likely and Pessimistic. This introduces a solution to address this project from a scheduling prospective.

Slide 8 shows how the project would look using all of the Pessimistic Estimates. This shows completion of the project in 60 months, a "Worst Case" and unlikely scenario.

Slide 9 then introduces the "Critical Chain" approach applied to this problem. This method derives from the ideas of Dr. Eliyahu Goldratt in his book, "The Critical Chain" (see http://www.goldratt.com/chain.htm). Although the ideas presented are a simplified application of the methodology, it seems to me that they are a more practical and useful description for early introduction of the process to a company.

This approach depends upon the use of estimates that require the upper management and team co-operation to work effectively. The goal is to produce a result that is meaningful to all that are involved in the process. This includes the customer, the management and the project team.

The main task is to create an effective method of determining the contingency for a project. This contingency will be added as a “buffer” at the end of the project to take into consideration the project cost and task uncertainties. The project is then managed to the project date by constantly reviewing the amount of the buffer that has been used up at a specific point in time. This becomes the major focus of management attention. In the meantime, the actual project nominal deadlines are focused on for each project participant.

This factor requires a small change in project “culture” to make it work. Each team member focuses on getting the task done to the original, nominally estimated time. It is not a “big deal” if they miss a date by a relatively moderate amount. Everyone knows that the there is “reserve for contingency” so that a missed date is not a “disaster, even if it is on the “critical path”. At the other extreme, task dates are not to be considered in a “cavalier” manner either.

The persons implementing on the project then place their focus on the current estimate of their task completion date. This date is based upon the actual start date, plus the original estimated completion time. The entire team and the management focus on the percentage of project buffer currently used.

Calculating the Project Contingency Buffer

This buffer can be calculated in two ways. One is the Root Sum Square (RSS) Method, and the other is the “50% Method” that is described in the Critical Chain book. The results are shown on Slide 9. I have also produced a paper and template for computing these values using an Excel Spreadsheet. It is also attached to this “zipped” archive for your review.

The slide shows both values for the project under consideration. Note that the worst case estimate shows the project completion at 60 months, the 50% method shows the completion in 47 months, and the RSS method shows completion in 45 months.

Slide 11 summarizes the potential project results: Slow but sure, fast but very unlikely and faster and sure.

Cost Contingency

Slides 12, 13 and 14 show the same estimating approach applied to project cost budgeting. This is how the budget can also be controlled using such an approach.

Controlling "Scope Creep"

There is no method presented for controlling "scope creep", since the Critical Chain method does not tackle that issue. It assumes that it is part of the contingency risk.

Other Information

On the remaining slides, 15 through 18, appear the conclusions and information about Dohn Kissinger and important books and sites related to the presentation. These can be very useful for those attempting to use this approach.

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