

Ottawa Software Process Improvement Network

Meeting Report: October 19, 2000

Presenter:

Captain Mark Jennings,
Department of National Defense

Mark is a software engineer and project manager within the Department of National Defense. He is the chair and project leader of the Project tracking & Oversight Working Group under the Enhanced Management Framework for IT. With over 10 years experience in the area of estimation, he has done many presentations on estimation.

Topic: Estimating for an IM/IT Project

Summary:

Tonight Mark reminded us that Estimating, Planning, Tracking, Scheduling, Metrics, and Quality are all intertwined in delivering quality software, on budget, on time with expected quality. We have heard many of the individual components before but Mark showed us the correlation between the various components of excellent project management. The Enhanced Management Framework (EMF) is an excellent resource that details many of the concepts Mark talked about and is well worth a visit.

Details:

(Marks' presentation material was taken from documents at reference a)

Mark led us through the Software Engineering Institute's view on Software Project Planning, Tracking and Oversight, pointing out the key elements of Project Planning and Estimation. Key to any estimation process is Initial Planning, re-Planning as the project evolves and Postmortem after the project is completed (to compare actuals vs. estimates, lessons learned, etc.).

Mark gave a description of the reasons why estimates fail followed by a discussion of techniques to estimate including what is actually estimated. He presented detailed example of using an Estimation spreadsheet with parameters followed by a Project Resources Schedule Procedure (reference b).

Mark pointed out that monitoring and control of estimates should be done at the end of each phase by comparing actual schedule to predicted. Historical records are very important in order to improve estimates and Mark suggests a list of information areas to capture (e.g. project characteristics, effort adjust factors, effort information, etc.).

One of the most interesting parts of Mark's presentation was the concept of the Project Control Panel (reference c). This is basically a set of (project) gauges to give one a visual status of the project, to see whether or not the project is on track. Would be very useful in setting up trigger points in project tracking. Mark also talked about setting up a Metrics program with an extensive list of Quality metrics.

The EMF project has created several guidelines and templates to help organizations with Estimation and project management, e.g. Estimating Software Product Size Basic procedure, Project Plan template, etc. (reference b).

Top reasons for failure of estimates:

- Unclear requirements
- Unclear parameters affecting estimates (e.g. risks)
- Little or no project databank to learn from
- Difficult to adjust estimates once approved
- Estimates are rushed
- Inability to get acceptance of the estimates
- Imposed budgets, time & resources
- Lack of training/coaching on estimating techniques and tools

Estimation Techniques

- Rules of thumb
- Historical project data
- Top down product requirements
- Bottom up decomposition of activities
- Parametric or algorithmic formulas (e.g. COCOM II)
- Team expertise (Delphi)
- Corporate expertise

References:

(a) The Enhanced Management Framework (EMF)

http://www.cio-dpi.gc.ca/emf/EMFIndex_e.html

The EMF provides solutions to project management concerns experienced in the federal government. It comprises principles, best practices, methodologies, tools, templates, and books, guides and standards. These solutions are all accessible through this site.

Go to links page for many references related to project management and estimation:

http://www.cio-dpi.gc.ca/emf/Reference/links/links_e.html

(b) <http://198.103.32.147/forum/cio-dpi/dispatch.exe>

Process and templates available here for estimating software size, resource, schedule.

- (c) Software program Managers Networks <http://www.spmn.com/>
Contains the project control panel.

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