



## NCAR-CSEG / Construx Training and Consulting Session

December 2001

In December of 2001, [Construx](#) and NCAR's CCSM Software Engineering Group (CSEG) had a three-day training and consulting session at NCAR. The training was given by Steve Tockey and was based on Steve McConnell's book, "Software Project Survival Guide." The CSEG had previously read and discussed the book, chapter by chapter, and felt the general approach was reasonable and appropriate for improving CCSM's software development process. The resulting identification of CCSM/CSEG project challenges, potential solutions, and a suggested action plan are summarized here.

### Software Project Challenges

- Uncontrolled requirements creep
- Small penalty for lateness/no incentive for early  
(Or are we overly minimizing the penalty for lateness, given the impact on respect & credibility?)
- No call to do any planning
- Can't test some theories without huge investment
- Inadequate testing
- No consensus on what testing is necessary
- Little review of process for improvement
- Increasing complexity of the environment
- Non-existent requirements
- Lack of planning
- Lack of active risk management
- We have to deal with some poorly developed code (legacy code?)
- Missing product management

### Back-to-Work Action Plan

#### By next week

- Revisit this and do a severe sanity check on it – Tony
- Look at SEP-PCH and CxOne charter templates and make CCSM Charter template – Brian
- Look SEP-RAA and CxOne to develop risk & asset process/template – Lawrence
- Draft up charters for CCSM and 5 components – Lawrence to lead, liaisons to do for components
- Discuss in defect tracking configuration agenda: Track defects including when injected, when detected, effort/cost to fix – Lawrence
- Send Earned Value references to Tony – Steve
- Get and read these books on testing: – Lawrence
  - Glenford Myers, *The Art of Software Testing*, Wiley, 1979
  - Cem Kaner, Jack Faulk, Hung Quoc Nguyen, *Testing Computer Software*, 2nd Ed., International Thompson Computer Press, 1993
  - Bill Hetzel, *The Complete Guide to Software Testing*, 2nd Ed., Wiley, 1988
- Send lessons-learned process & template to Tony – steve

#### By next month

- Make a presentation of all of this to the scientists – Tony
- "Finalize" charters for CCSM and 5 components (should be put under change control) – Jeff
- Update the risks list (look at assets also) (not necessarily under change control) – Lawrence
- Plan (for the software) based on charters, risks, and assets – Tony and Component Liaisons(?)
- Get Suzanne Robertson and James Robertson, *Mastering the Requirements Process*, Addison-Wesley, 1999. Pay particular attention to Volere Template and the "Fit Criteria" – Tony

- Put in place a change control process – Tony
- Start meetings of the atmosphere "change board" – Jeff
- Put planning checkpoint reviews on Jeff's radar screen (point him to relevant chapter in SPSPG, point out that "no go" option is off the table) – Tony
- Have people who do planning read Chapter 7 (Lifecycles) of McConnell's Rapid Development
- Look at CxOne project plan and lite project plan templates, start thinking about your own project plan template – Tony
- Review the last 18 months/lessons learned – Tony
- Make sure lessons-learned is in the project plan template – Tony

#### **By next quarter**

- Develop a consistent approach to reviewing code – Brian
- Get and read the PMBOK ([www.pmi.org](http://www.pmi.org)) – Tony
- Start meetings of the remaining "change board" – Jeff
- Complete a reading/discussion group on Suzanne Robertson and James Robertson, Mastering the Requirements Process, Addison-Wesley, 1999 – Tony
- Go investigate Earned Value – Tony
- Get copies of
  - Donald C. Gause and Gerald M. Weinberg, Exploring Requirements
  - Quality Before Design, Dorset House, 1989
- Look into peer reviews: – Lawrence
  - Daniel Freedman, Gerald Weinberg, Handbook of Walkthroughs, Inspections, and Technical Reviews
  - Evaluating Programs, Projects, and Products, Third Edition, Dorset House, 1990, David Wheeler, Bill Brykczynski, Reginald Meeson,
  - Software Inspection – An Industry Best Practice, IEEE Computer Society Press, 1996
  - CxOne peer reviews stuff

#### **By next 6 months**

- Extract defect tracking data and plot your own "Upstream, downstream" graph – Lawrence

#### **By next year**

- Start looking into the Cone of Uncertainty.  
Think about how it might be applied within the organization given all that's happened up to now – Tony

#### **Background stuff**

- Get a couple of copies of
  - Michael Doyle and David Straus, How to Make Meetings Work
  - The New Interaction Method, Reprinted Edition, Berkley Publishing Group, 1993
  - Tom DeMarco & Tim Lister, Peopleware, 10th Anniversary Edition, Dorset House, 1998
  - Robert Block, The Politics of Projects, Yourdon Press, ~1984
  - Stephen Robbins, Essentials of Organizational Behavior, 6th Ed., Prentice Hall, 2000
  - Everett Rogers, Diffusion of Innovation, 4th Ed.(?), Free Press, 1994
  - Project Management Institute, Project Management Body of Knowledge (PM-BOK), available at [www.pmi.org](http://www.pmi.org)
- Think about Product Management