



Quality Advice Concerning Requirements

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Requirements provide the basis for all of the technical work on a project, program, or development effort. Too often, we proceed with other technical work before evolving the real requirements. Also, we accept changes to the requirements and new requirements without identifying their impact on the project or the development effort. This talk will provide ideas for quality professionals to suggest to their projects and organizations concerning how this situation can be improved, for example:

- Use of documents to create a deeper understanding of the requirements throughout the project.
 - Vision and Scope Document.
 - Concept of Operations (CONOPS) Document
- Having a requirements “process owner” on the project.
- Having a documented requirements process (best if the stakeholders developed this process!).
- Providing training concerning requirements development and management.
- Providing an “Early Project Requirements Briefing” to engage others on the project in the requirements effort.
- Collaborating to evolve the real requirements vs. accepting the stated requirements.
- Performing peer reviews of requirements using checklists based on experience.
- Planning for refinement of requirements.
- Managing changes to requirements and new requirements (rules, thresholds, and a mechanism to manage requirements volatility). The proper use of metrics always helps improve quality.
- Identifying validation methods as part of the requirements development effort (rather than as part of the testing effort).
- Use of quality gates to review and accept products and product components, as details are refined.

The speaker will engage the participants in a discussion of potential improvement opportunities and elaborate on how these might be pursued.



Presenter: Dr. Ralph R. Young is the Director of Engineering Process Improvement, Systems and Process Engineering, Defense Enterprise Solutions, Northrop Grumman Information Technology, a leading provider of systems-based solutions. Dr. Young helped lead his former business unit (Litton PRC) to CMM Level 5 and his current business unit to CMMI Level 5. Dr. Young is an avid reader of the industry literature. He consults with internal and external projects to improve their capabilities to utilize process improvement techniques, effective requirements practices, and address areas that are of concern to project managers. He has been awarded Teamwork, Leadership, Continuous Improvement, and Publishing Awards and is often recognized for his contributions in process management and improvement. He is the author of *Effective Requirements Practices* (Addison Wesley Publishers, 2001) and *The Requirements Engineering Handbook* (Artech House, 2004).

Below is an image from the electron white-board used in the meeting.

SUGGESTIONS

Push-back cycle

Engage the real reqts via stated reqts

invest 8-14% of project cost in the RE Process

(spiral:
1) 20-25%
2) 5-10%

joint contact: "Joint Team"

control changes and new reqts.

CONOPS

- Vision and Scope

- ~200 high level reqts

- prioritize: / time phasing

1) essential: identify minimum reqts

2)

3)

- partnering

- "Early Project Reqts. Briefing"

- Iterate reqts and the architecture

- Training for RAs

reqts errors:
omitted 50%

erroneous 30%
early validation

PROTECT ISSUES

Need a hierarchy of reqts.

Customer Satisfaction

Grow the business

SME / Domain Expertise

Life cycle model that is consistent with reqts. / acquisition strategy