

Reviewing Requirements and Design Adequacy

Course Summary

Description

Effective requirements and design definition should, but seldom does, include assuring they are adequate. Most organizations do at best use one or two weaker than realized methods to help prevent costly rework and up to two-thirds of the errors which traditionally plague finished systems. This unique workshop shows numerous ways to review up-front, where payoffs are greatest. Applying the techniques successively to a real case, participants discover that each review technique reveals additional, otherwise-overlooked defects.

Objectives

By the end of this course, students will learn:

- Why the regular ways for reviewing requirements and designs are far weaker than recognized.
- Commonly known review methods that need minimal subject knowledge and detect only form issues.
- Special techniques/guidelines enlisting greater domain knowledge to find overlooked requirements.
- Most-demanding methods that apply the greatest subject knowledge to assure content correctness.
- Powerful active design review techniques to supplement more typical passive static review methods.
- Managing the review process and allocating resources economically.

Topics

- Value Of (Static) Testing Up-Front
- Finding Overlooked Requirements
- Assuring Accuracy/Completeness
- Evaluating Financial Indicators
- Reviewing Design Suitability
- Actively Testing Design Accuracy
- Managing the Review Process

Audience

This course has been designed for business and systems managers, project managers, business analysts, programmer analysts, quality/testing professionals, and auditors responsible for assuring the accuracy and completeness of requirements and/or designs.

Duration

Two Days

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Course Outline

- I. Value Of (Static) Testing Up-Front**
 - A. Error sources; economics of quality
 - B. Survey on improving requirements quality
 - C. Keys to effective testing
 - D. Why up-front testing usually is so weak
 - E. CAT-Scan Approach □ secret to quality
- II. Reviewing Requirements Formats**
 - A. Hidden weaknesses of traditional methods
 - B. Adding strength to subjective evaluations
 - C. Making sure they are requirements
 - D. Assessing reviewability
 - E. Judging structural completeness and clarity
- III. Finding Overlooked Requirements**
 - A. Identifying all the stakeholders
 - B. Detecting all three Quality Dimensions
 - C. Addressing relevant quality factors
 - D. Commonly overlooked sources
- IV. Assuring Accuracy/Completeness**
 - A. Finding Engineered Deliverable Quality
 - B. Checking importance and criticality
 - C. Matching to independent definitions
 - D. Defining acceptance criteria
 - E. Working out implications in action
 - F. Simulation and prototyping
 - G. Standards, guidelines, and conventions
 - H. Independent/expert validation
- V. Evaluating Financial Indicators**
 - A. Relation to requirements/design adequacy
 - B. Feasibility vs. justification
 - C. Assessing reliability of cost/benefit estimates
- VI. Reviewing Design Suitability**
 - A. Calculating internal design quality metrics
 - B. Structured English, Cause-Effect Graphing
 - C. Checklists/guidelines for judgments
 - D. Conformance to engineering standards
 - E. Enlisting meaningful customer cooperation
 - F. Evaluating designs competitively
- VII. Actively Testing Design Accuracy**
 - A. Tracing to requirements
 - B. Tracking data backwards and forwards
 - C. Walking through logic
 - D. Prototyping and simulation techniques
 - E. Evaluating key quality factor "ilities"
 - F. Exercising user/operations instructions
 - G. Checking installation, support, maintenance
 - H. Challenging designs by test planning
- VIII. Managing the Review Process**
 - A. Measuring the "proof of the pudding"
 - B. Tying back to actual time/cost/problems
 - C. Enlisting the right resources, cooperation
 - D. Managing changes
 - E. Measuring effectiveness meaningfully