

Course 314: Software Inspection Methods

(2 days)

Course Description...

The software engineering process entails a variety of verification and validation (V&V) techniques to elevate the user's confidence that the delivered software meets its requirements and is constructed in accordance with its design. Software inspection, which identifies and removes defects early in the software engineering life cycle, is unquestionably a cost-effective adjunct to testing, which is conducted in the later stages of the life cycle. This course, describing the software inspection process in detail, includes an inspection workshop, based on documentation submitted by the client organization, giving the students concrete experience with the techniques. The course is intended for anyone whose work is likely to be subject to inspection and anyone who is likely to help inspect the work of others.

Learning Objectives...

- Understand the role of inspections in reducing the defect density of delivered software as an adjunct to the testing process.
- Define inspection based on the Capability Maturity Model Integration framework.
- Discuss the roles and skills of participants in the inspection process.
- Provide a roadmap for instituting and assessing the effectiveness of inspection in a software engineering organization.
- Explore the role of inspection in an outsourcing environment.

Who should attend...

Audience includes software process engineers, quality assurance professionals, project managers, and software practitioners, with an interest in participating in inspection to help their organizations reduce cost and yet produce higher quality software products at the same time.

Prerequisites...

No specific prerequisites are needed.

See next page for a detailed course outline...



Course Outline...

Introduction and Overview

Course Objectives

Chapter 1: Introduction

Chapter Objectives

Inspection Concepts

- Definitions
- Software life cycle phases
- Benefits of early inspection

Static Verification & Validation Process Types

- Technical reviews
- Individual reviews
- Informal peer reviews
- Walkthroughs
- Demonstrations
- Formal peer reviews (inspections)

Selecting a Static Verification & Validation Process

- Criteria
- Work products that should be inspected
- Examples

Chapter Summary and Best Practices

Chapter 2: Inspection Procedures

Chapter Objectives

Overview of the Inspection Process

- Inputs
- Outputs
- Participants

Planning Process

- Inputs
- Outputs
- Participants

Entry Process

- Tasks
- Deliverables
- Roles and responsibilities



Kickoff Meeting

- Tasks
- Deliverables
- Roles and responsibilities

Individual Checking

- Tasks
- Deliverables
- Roles and responsibilities

Logging Meeting

- Tasks
- Deliverables
- Roles and responsibilities

Edit and Follow up

- Tasks
- Deliverables
- Roles and responsibilities

Exit Process

- Tasks and forms
- Deliverables
- Roles and responsibilities

Chapter Summary and Best Practices

Chapter 3: Details of the Individual Checking Process

Chapter Objectives

What to Look for

- Correctness
- Completeness
- Consistency

Inspection Checklists

- Checklist scope
- Checklist usage
- Sources of checklist information
- Checklist evolution
- Examples for various work products



Traceability

- Tracing the requirements
- Where traceability can be used
- Using the traceability matrix in impact assessment
- Multi-level traceability
- Traceability matrix process
- Identifying defects

Chapter Summary and Best Practices

Chapter 4: Inspection Forms and Reports

- Issue log
- Summary report
- Defect classification report
- Other forms
- Other reports

Chapter 4: Class Workshop

Conducting an inspection of a class case study or client-furnished material

Chapter 5: The Bottom Line

Course summary
Students' perspectives

Please contact your ROI representative to discuss course tailoring!!!