Outline

• Reviews in the lifecycle
• Types of reviews
• How to conduct review
General Knowledge

- Most reviews can be used for software or systems
- Scope varies
  - Doesn't affect procedures
- Assess progress and quality
What is a Review?

- “A process or meeting during which a work product, or a set of work products, is presented to project personnel, managers, users, customers, and other interested parties for comment or approval. Types include code review, design review, formal qualification review, requirements review, and test readiness review.”
Review Forms

• Formal/Informal Reviews
• Internal Management Reviews
• Peer Reviews
  – Walkthrough
  – Inspection
  – Round-robin
What is a Formal Review?

- Usually required by contract
- Usually on government projects

• Freedman and Weinberg
  – Written report on the status of product reviewed
  – Active and open participation according to rules
  – Quality of report is responsibility of all participants
Application in the Life Cycle

• Figure from the book
  – Volume 2 pg 90
Management Reviews

• Formal evaluation of project-level plan or status
• Objective
  – Communicate progress
  – Coordinate decision making
  – Provide recommendations
    • Measurement of progress
    • Project direction
    • Allocation of resources
Management Reviews
Continued

• Roles
  – Leader
    • Administrative tasks
  – Reporter
    • Documentation available before meeting
    • Documents the meeting
  – Team Member
Management Reviews
Continued

• When to hold a management review
  – Stated in planning documentation
  – For new development or maintenance
  – Completion of project phase
  – For a specific deliverable
  – As needed
Management Reviews Continued

• Preparation Materials
  – Statement of Objectives
  – Current schedule, resources, and budget
  – Reports
  – Software deliverable status
Management Reviews
Continued

• Agenda
  – Leader schedules meeting and prepares materials
  – Optional review session scheduled
  – Action items assigned
  – Complete when all issues from statement of objectives are addressed
Management Reviews Continued

• Output
  – Management Review Report
    • Team
    • Inputs
    • Objectives
    • Action Items
    • Project status and issues
    • Recommendations
Walkthroughs

• Evaluate a software element
  – Specifications
• Statement of Objectives is software specific
• Objective
  – Detect Defects
  – Examine alternatives
  – Collect Feedback
Walkthroughs Continued

• Roles
  – Leader
    • Administrative tasks
    • Documentation available before meeting
    • Documents the meeting
    • Usually the author
  – Scribe
    • Records comments
  – Team Member
    • Reviews beforehand
Walkthroughs Continued

• When to hold a walkthrough
  – Stated in planning documentation
  – Completion of software element
  – As needed
Walkthroughs Continued

• Planning
  – Identify team
  – Schedule meeting
  – Distribute materials

• Preparation
  – Participants review beforehand
Walkthroughs Continued

• Examination
  – Overview by author
  – “Walk through” the software element
  – Members comment
  – Scribe records
Walkthroughs Continued

• Output
  – Walkthrough report
    • Team
    • Software Element
    • Statement of Objectives
    • List of defects, suggestions
    • Follow-up walkthrough (optional)
Formal Inspections

• Similar to a walkthrough
• Objective
  – Detect common defects
    • Against a check list
    • Used for statistics
      – Evaluation, experience base
Formal Inspections Continued

• Roles
  – Moderator
    • Technical expertise
    • Outside the project
  – Participants
    • Peers
    • Inside the project
  – Preparer/Developer
  – Recorder
Formal Inspections Continued

• When to hold a formal inspection
  – Stated in planning documentation
  – Throughout development phase
    • Design, Implementation, etc
  – As needed
Formal Inspections Continued

• Planning is similar to walkthrough
• Agenda
  – Moderator walks through the software element
  – Peers comment
  – Recorder records
    • Check list
      – Common types of defects
        » Wrongful use of data
        » Faults in declarations
        » Faults in computation
        » Faults in control flow
        » Faults in interfaces
Formal Inspections Continued

• Output
  – List of defects categorized by severity
• Moderator checks fixes
• Reinspection may be scheduled
Audits

• Definition
  – “An independent examination of a work product or set of work products”
  – Tests compliance
    • Specifications
    • Standards
    • Contractual Agreements
Audits Continued

• Types
  – Functional Configuration Audit (FCA)
    • Evaluating functionality
  – Physical Configuration Audit (PCA)
    • Evaluation configuration item
  – Quality Assurance Audits
  – Configuration Management Audits
Audits Continued

• Checks that product development and process execution is done according to standards and specifications

• Elements evaluated
  – Software Elements
  – Processes for Software Element production
  – Projects
  – Quality Programs
Audits Continued

• Roles
  – Audit Team Leader
    • Directs audit
    • Coordinates audit report
  – Audit Team
Audits Continued

• When to audit
  – Project milestone met (plans)
  – External party requirement
  – By request
Audits Continued

• Audit Plan
  – Project processes to examined
  – Software to be examined
  – Reporting Requirements
  – Required Follow-up activities
  – Procedures to complete audit
  – Objective audit criteria
  – Audit procedures and check list
  – Audit personnel requirements
  – Organizations involved
  – Planning of overview session (optional)
Audits Continued

• Audit Team Preparation
  – Understand
    • Organization
    • Products
    • Processes
    • Objective audit criteria
  – Prepare
    • Audit report
    • Plan
Audits Continued

- Audit Team Leader Arrangements
  - Team orientation
  - Interview facilities
  - Interviews
  - Resources required
  - Software elements
Audits Continued

• Exit Criteria
  – All elements examined
  – Findings presented
  – Audit report prepared and submitted
  – Recommendation report prepared and submitted
  – Follow-up actions completed
Audits Continued

• Output
  – Audit Report
    • Identification
      – Title, organizations, date
    • Scope
      – Criteria, processes
    • Conclusions
      – Summary of findings
    • Synopsis
      – Listing of findings
    • Follow-up
  – Recommendations
Inspections

- Limited focus audit
- Non interactive
My Opinion

• Good resource, slow reading
• General
  – Positive
  – Negative
• Terminology
Outline

• Reviews in the lifecycle
• Types of reviews
• How to conduct review
Questions?