



Requirements inspections/technical reviews

SEng 321



Outline

- Requirements inspections: integral part of Software V&V activities or **Software Quality Assurance (SQA)** activities
- Types of technical reviews
- Guidelines for conducting requirements technical reviews (inspections)



A slight detour: Technical Reviews

Technical reviews conducted during:

- **specification**
- design
- Coding

Other names:

- (Fagan) inspections
- Walkthroughs
- Round robin reviews



Benefits of technical reviews

Errors found	Number	Cost unit	Total
Reviews conducted			
During design	22	1.5	33
Before test	36	6.5	234
During test	15	15	315
After release	3	67	201
			783
No reviews conducted			
Before test	22	6.5	143
During test	82	15	1238
After release	12	67	804
			2177

[Roger Pressman, Software Engineering: A practitioner's approach, 1997]

Research (Univ. of Maryland) continued to show since the benefits of technical reviews over automated testing



Characteristics of technical reviews

- Well defined roles
- Typically no more than 6-7 participants
- Duration: no more than 2 hours
- Well-defined and agreed outcome
- Seek to uncover errors close to the time they might have been produced



Roles in technical reviews

Walkthroughs

- Leader
- Recorder
- Reader (implementer)
- Author (designer)
- Other reviewers

Fagan inspections

- Moderator
- Designer
- Coder/implementer
- Tester



Fagan inspection process-- Phases

Planning

Prepare material, educate inspectors, schedule the meeting

Overview and Preparation

Present the overview to participants, read the material to identify defects

Inspection meeting

Find defects! Note but do not solve problems

Process improvement

Learn from current inspection to improve next inspection

Rework

Author reworks all defects

Follow up

Moderator verifies all fixes; product is re-inspect if 5% of document is reworked.



Requirements reviews

Round robin more useful

- Encourages equal participation
- Participants roughly at the same level of knowledge



Guidelines for technical reviews

- Develop a checklist for each work product that is likely to be reviewed.
- Review the product, not the producer.
- Set an agenda and maintain it.
- Limit debate and rebuttal.
- Enunciate problem areas, but don't attempt to solve every problem noted.



Guidelines for technical reviews

- Take written notes.
- Limit the number of participants and insist upon advance preparation.
- Review your earlier reviews and the current review process
- Allocate resources and time schedule for technical reviews
- Conduct meaningful training for all reviewers.