No.3 Inspection

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What is inspection?

- Most formal review method for identifying defects and issues
  - Roles, recording form
  - Process including preparations
- Developed by Michael Fagan (IBM) [Fagan76]
- Well organized and standardized IEEE Std 1028 ほか

Michael E. Fagan, Design and code inspections to reduce errors in programming development, IBM Systems Journal, 15(3), 1976
IEEE Std 1028－1997 IEEE Standard for Software Reviews
TomGilb,DorothyGraham, 伊土誠一・富野壽(監訳), ソフトウェアインスペクション, 共立出版, 1999

Role

- Author: creates the target product
- Moderator: plans the inspection and coordinates it
- Reader: reads through the product, one item at a time
- Recorder: records defects found during inspection
- Inspector: examines the product to identify defects and issues

Inspection process


Author


Moderator


Reader


Inspector


Recorder

1. Planning

2. Overview meeting

3. Preparation

4. Inspection meeting

Recording

5. Rework

6. Follow-up

L. Westfall, The Certified Software Quality Engineer Handbook, ASQ, 2009.
参考: 日本科学技術連盟, ソフトウェア品質技術者 初級セミナー 資料, 2013.

1. Planning

- Clarify objective
- Define reading method
- Select members (7 at most)
- Assign perspectives to members
- Estimate efforts
- Prepare and distribute materials (such as products and checklists) to members

K.E. Wiegers, Peer Reviews in Software: A Practical Guide, Addison-Wesley, 2002.
(邦訳『ピアレビュー』日経BP)

2. Overview meeting

- Confirm the target product
  - Background, objective, requirements, functions
  - Focused area
- Confirm review methods
  - Process
  - Reading method
  - Role
  - Perspective

3. Preparation

- Examine the product and identify defects and issues before inspection meeting
  - Perspectives and checklists
  - Focused area
- Record questions (and inquire later)

Perspectives and checklists

Role	Method of reading	Concrete considerations, for example:
End user 利用者	Read from the viewpoint of end users, such as satisfaction of requirements, needs and UseCases.	1. Are all needs and requirements satisfied ? 2. Are all possible users identified? 3. Are behaviors identified for all states and inputs? 4. Is it easy to use the target?
Tester テスト担当者	Read from the viewpoint of testers, such as ease of testing and adequacy of necessary information for test design and implementation.	1. Is it easy to test the target? 2. Is there enough information for testing the target? 3. Is the target robust for any input?
Designer 設計者	Read from the viewpoint of designers, such as design complexity and future design extensibility.	1. Define necessary information for design? 2. Define all external interfaces clearly? 3. Only single interpretation for each item? 4. No redundant nor inconsistent descriptions? 5. Adequate complexity for future maintenance? 6. Is it easy to extend the target design?

日本科学技術連盟, ソフトウェア品質技術者 初級セミナー 資料, 2013.

4. Inspection meeting

- NOT fixing BUT identifying defects from various viewpoints
- 2 hours or less
- (0) Confirm preparation
- (1) Discuss overall concerns, and record
- (2) Discuss part by part, and record
- (3) Confirm anything overlooked
- (4) Decide accept, rework, re-inspect, or reject
- (5) Retrospect

5-6. After meeting

- 5. Rework
  - Author modify the product
- 6. Follow up
  - Moderator verifies the rework

Work: inspection

- Goal: understanding inspection

- Target: source code corresponding to design
- Objective: detecting defects and issues
- Method: inspection
  - Role: 1 moderator, 1 recorder
  - Perspective: designer, tester, user
  - Tool: recording form, checklist
- Time: 40min (10min for preparation and 30min for meeting)

Report Assignment No.1

- Single PDF file
- CourseN@vi or email
- Due: April 20th 17:00 JST
- Your name, id, submission date
- (1) Result of Ad-hoc review
- ~~(2) Result of Inspection preparation (i.e. PBR/CBR)~~
- ~~(3) Comparison and evaluation of adhoc-review and~~ PBR/CBR
  - ~~Such as purpose, preparation, process, tools, pros and~~ cons …