Introduction to Programming II

Code Reviews

Design Review – Goals

- Catch most bugs, design flaws early
- Forcing code/designs for documentation and code improvements
- Inexperienced get hands-on experience without hurting code
- Improving the quality

We want to conduct reviews for 100% of the code for all projects and make reviews more efficient in less time.

Design Review

- Groups do better than individuals (the many eyes phenomenon)

To think about

"No book is commercially published without review by professional editors. Scan the acknowledgments in any book, and you find reviewers who helped "remove defects". The correction and review process is a requirement to produce a high-quality work. "

Reviews

- its purpose is to detect defects;
- systematic reading of a software development artifact;
- complements other verification techniques, e.g. testing and proofs: typically this process finds different defects;
- should not be used to educate, report status. fix detected problems

It could also be used to check adherence to corporate or governmental standards.

Reviews

Can be applied to different kind of artifacts:

- requirement documents
- specification
- architectural designs
- detail designs
- code
- test plans
- documentation

Roles

- owner
- moderator
- reviewers

Process

Step 1: Planning

- participants are selected
- a meeting is scheduled
- roles are assigned
- a Google document is created: the doc contains the specific artifact.
- link of the Google document is distributed. All participants must have writing permission.

planning should be completed days before the scheduled meeting

Step 2: Preparation

- participants should individually study the material noting potential defects in the Google doc
  - the idea is to save time in the meeting
- expected rate of individual review should be about 10 pages of text or 250 LOC.

Step 3: Review

- The actual meeting takes place
- Should last no more than 2 hours
- only noted defects with required attention will be discussed.

Review meeting

- Introduction of participants
- Statement of objectives
- Evaluation of the preparedness
- Thoroughness

Step 4: Rework

- the owner of the artifact should investigate the issues raised
- defects should be corrected or at least saved as an issue tracking system

Step 5: Follow up

- Author should report on the Google document the results
- Participants can access the doc to confirm that fixes have been implemented
- the moderator should also collect data: number of defects, number of participants, number of fixes and saved as issues, total time spend reviewing.
- previous item could be used for the moderator to improve upcoming review process.