

# Appendix to Expectations, Outcomes, and Challenges of Modern Code Review

August 17, 2012  
Technical Report  
MSR-TR-2012-83

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# Appendix to Expectations, Outcomes, and Challenges of Modern Code Review

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## ABSTRACT

As part of our research on code review at Microsoft, we developed two surveys designed from the responses that we received during interviews. This appendix contains the questions that were asked in those surveys. The discussion or the results of the survey is included in our research paper.

## APPENDIX: CODE REVIEW SURVEYS

Both surveys were administered anonymously. We include the type of response in *italics* after the text of each question. The management survey was sent to 600 managers and received 165 (28% response rate). The developer survey was sent to 2000 developers and received 873 responses (44% response rate).

### A.1 Code Review Motivations Survey to Managers

1. How many years have you been in your current organization? (decimals ok) (*numerical response*)
2. How many developers are on your team (report to you directly or indirectly)? (*numerical response*)
3. Is it a policy in your team to perform code reviews? (*Yes or No*)
4. Do you sign off on code reviews yourself? (*Yes or No*)
5. What are the motivations for code review in your team? Please list them, one per line, in order of importance (from most important to least important). (*free response*)
6. If you have any comments or feedback on this topic, please share them here. (*free response*)

### A.2 Code Review Motivations Survey to Developers

1. Which best describes your primary work area? (*choices: Development, Test, Build, Design and UX, Documentation and Localization, Product*

*support, Management and Administration, Research, Marketing, Other*)

2. If you selected Other, please describe your primary work area. (*free response*)
3. How many years have you worked in the software industry? (decimals okay) (*numerical response*)
4. How many years have you worked at Microsoft? (decimals okay) (*numerical response*)
5. How many developers are on your immediate team (including yourself)? (*numerical response*)
6. Is it a policy in your team to perform code reviews? (*yes or no*)
7. What are your motivations for code review? Please pick the three most important ones (in order, without ties) from the following list. (*choices per item: First Most Important, Second Most Important Third Most Important, Not Top 3 Importance*)
  - Avoiding build breaks
  - Code Improvement (e.g., better readability, improved comments, removing dead/duplicate code)
  - Collective Code Ownership (i.e., make developers less “protective” of their code)
  - Finding defects/bugs
  - Generate better ideas, alternative approaches
  - Helping improving the development process in general
  - Keeping track of comments and rationale on code changes
  - Shared Technical Learning (e.g., APIs, System Design, Team Conventions, Best Practices)
  - Team Assessment (i.e., evaluating the ability of team members to review code and write code well)

- Team Awareness/Transparency (knowing what is going on in the development)
8. If you have other motivations for code review that are in the top three but are not listed above, please list them here. *(free response)*
  9. Consider the following questions from the perspective of you being the reviewer of a code review submission. *(not a question)*
  10. As a reviewer, under which conditions do you need to talk in person to the author of a code review submission? *(free response)*
  11. As a reviewer, if the files being modified by a code review submission are owned by you (or you are very familiar with them), how often do you talk in person with the author of the code review? *(choices: Never, up to 25% of the time, between 25% and 50% of the time, between 50% and 75% of the time, More than 75% of the time)*
  12. As a reviewer, if the files being modified by a code review submission are unfamiliar to you (or are new), how often do you talk in person with the author of the code review? *(choices: Never, up to 25% of the time, between 25% and 50% of the time, between 50% and 75% of the time, More than 75% of the time)*
  13. Does it take longer to review files that you are not familiar with (or files that are new)? *(yes or no)*
  14. Why or why not? *(free response)*
  15. How much understanding of the code review submission do you need for achieving the following: *(choices: No understanding, Little understanding, High understanding, Complete understanding)*
    - Avoiding build breaks
    - Code Improvement (e.g., better readability, improved comments, removing dead/duplicate code)
    - Collective Code Ownership (i.e., make developers less “protective” of their code)
    - Finding defects/bugs
    - Generate better ideas, alternative approaches
    - Helping improving the development process in general
    - Keeping track of comments and rationale on code changes
    - Shared Technical Learning (e.g., APIs, System Design, Team Conventions, Best Practices)
    - Team Assessment (i.e., evaluating the ability of team members to review code and write code well)
    - Team Awareness/Transparency (knowing what is going on in the development)
  16. Consider the following questions from the perspective of you being the author of a code review submission. *(not a question)*
  17. How do you select the people to send your code review to? *(free response)*
  18. Is there a difference in comments/feedback you receive when a reviewer is very familiar with or the owner of the files you changed in a code review? *(yes or no)*
  19. If there is a difference, what is different in the comments/feedback? *(free response)*
  20. If you have any additional feedback that you feel would be helpful to our research in this area, please share it here. (Remember that the survey is anonymous, so please enter your alias below if your feedback requires follow-up.) *(free response)*
  21. If you would like to be notified with the results of our research, please email us (alias cbird) or enter your alias here and we will send it to you when it is completed. *(free response)*
  22. If you would like to be entered into a drawing for one of two \$50 Amazon gift cards, please enter your alias here or, if you are worried about anonymity, email us (alias cbird) with subject "Code Review Survey Drawing". *(free response)*