Empirical Investigations of Code Review at Microsoft and Beyond

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Abstract:

Code review is an important component in software engineering, practiced both in open source and industrial contexts. Review today differs from the code inspections performed and studied in the 70s and 80s and is now less formal and more "lightweight." Over the past two years, we have been investigating many aspects in code review both at Microsoft and in Open Source. In this talk I will discuss our exploration the motivations, challenges, and outcomes of tool-based code reviews including our findings that code reviews are less about finding defects than expected and instead provide additional benefits to software teams, such as knowledge transfer, increased team awareness, or creation of alternative solutions to problems. I will also present results from our analysis of a broad spectrum of projects including Office, Bing, Chrome, and Android, that uncovered a phenomena that we term "convergent practices of peer review." Finally, I will show the beginning of our efforts to address one of the largest challenges code review, that of change understanding.

Biography:

Christian Bird is a researcher in the empirical software engineering group at Microsoft Research. He is primarily interested in the relationship between software design, social dynamics, and processes in large development projects and in developing tools and techniques to help software teams. He has studied software development at Microsoft, IBM, and in the Open Source realm, examining the effects of distributed development, ownership policies, and the ways in which teams complete software tasks. He has published in the top Software Engineering venues including three ACM SIGSOFT Distinguished papers and Communications of the ACM. Christian received a B.S. from BYU and his Ph.D. from U.C. Davis under Prem Devanbu.