

Croder Bringing the Knowledge of the Crowds into the IDE

Semih Okur
University of Illinois at
Urbana-Champaign
Urbana, IL
okur2@illinois.edu

Mihai Codoban
University of Illinois at
Urbana-Champaign
Urbana, IL
codo@illinois.edu

Caius Brindescu
University of Illinois at
Urbana-Champaign
Urbana, IL
brind@illinois.edu

Kyungho Lee
University of Illinois at
Urbana-Champaign
Urbana, IL
klee141@illinois.edu

Shuo Yuan
University of Illinois at
Urbana-Champaign
Urbana, IL
syuan20@illinois.edu

INTRODUCTION

WHY INTEGRATE REVIEWS INTO THE IDE

RELATED WORK

SELECTING CODE SNIPPETS

CROWDS FOR SOFTWARE DEVELOPMENT

One of the main challenges was finding the appropriate crowd to conduct the code review. One of the first options was the Amazon Mechanical Turk. The main problem with this platform is the lack of qualified workers. Code Reviewing is a very technical process that requires a large amount of knowledge. We needed to aim for a platform where we were guaranteed to have the right audience.

Mechanical Turk tasks tend to be very simple and require only minimal knowledge and cognitive skills. During one experiment we asked a technical question about JavaScript. Out of the 10 hits, 9 were complete in 7 days. Of those 9 tasks, only 4 useful and most of them were incomplete. This partly shows that the Mechanical Turk platform is ill-suited for tasks that require specialized knowledge.

Services such as eLance¹ and oDesk² employ a crowd to complete programming tasks. But unlike typical crowd sourcing platforms, is it an offer based system. The requester posts the description for a task and workers bid to complete it. The requester then chooses a winner and then work on the project can start. This system is not what we are looking for. We needed a system where you can post your task and workers would select the task and complete it for a predetermined amount.

¹<http://www.elance.com>

²<http://www.odesk.com>

StackOverflow³ allow users to post questions and get answers. The service is larger than most social Q&A and technical forums. With a median answer time of 11 minutes and a very active user base [1] it makes a good candidate for a platform to run the experiment. StackOverflow is part of a network of sites (StackExchange⁴ that follow the same modes. One of them, *Code Review Stack Exchange*⁵ is based around the concept of code review. It is this platform that we have used to test our prototype.

STACKEXCHANGE CODE REVIEW CHARACTERISTICS

INTERFACE WITH STACKEXCHANGE

REVIEW MANAGEMENT IN THE IDE

CROWD SOURCED PEER REVIEW CREATION

TYING REVIEW OUTCOMES TO THE CODE

PRELIMINARY USER STUDY

SKETCHES

CONCLUSION

REFERENCES

1. Mamykina, L., Manoim, B., and Mittal, M. Design lessons from the fastest q&a site in the west. *Proceedings of the ...* (2011), 2857.

³<http://www.stackoverflow.com>

⁴<http://www.stackexchange.com>

⁵<http://codereview.stackexchange.com>