Message from the Chairs

CSI-SE 2015

It is our pleasure to welcome the reader to the (pre-workshop) proceedings of the 2nd International Workshop on Crowd Sourcing in Software Engineering (CSI-SE 2015), co-located with the 37th International Conference on Software Engineering (ICSE 2015) held in Florence, Italy, May 19, 2015.

A number of trends under the broad banner of crowdsourcing are beginning to fundamentally disrupt the way in which software is engineered. Programmers increasingly rely on crowdsourced knowledge and code, as they look to Q&A sites for answers or use code from publicly posted snippets. Programmers play, compete, and learn with the crowd, engaging in programming competitions and puzzles with crowds of programmers. Online IDEs make radically new forms of collaboration possible, allowing developers to synchronously program with crowds of distributed programmers. Programmer reputation is increasingly visible on Q&A sites and public code repositories, opening new possibilities in how developers find jobs and companies identify talent. Crowds of non-programmers increasingly participate in development, usability testing software or even constructing specifications while playing games. Crowdfunding democratizes choices about which software is built, broadening the software which might be feasibly constructed. Approaches for crowd development seek to microtask software development, dramatically increasing participation in open source by enabling software projects to be built through casual, transient work.

CSI-SE will examine three key challenging questions related to crowdsourcing software engineering problems:

What paradigms can be used to organize and coordinate workers? Crowdsourcing suggests a range of paradigms for organizing workers into a human-based infrastructure, several of which have already been explored in crowdsourcing software engineering to date. For instance, software engineering tasks can be directly distributed to the crowd (task-based crowdsourcing such as Q&A sites); or software artifacts might be constructed through games that have a hidden purpose (game-based crowdsourcing such as crowdsourced verification). The workshop will discuss a range of paradigms explored by crowdsourcing approaches and examine their suitability to addressing software engineering problems.

How to control the software development process while using a crowdsourcing computing infrastructure? Development processes and methodologies discipline the activities of the engineers involved in the realization of a software product. Development processes usually assume a certain degree of control over the people, the activities, and the timing. When the development process takes advantage of a crowdsourcing infrastructure, the control over people, activities, and timing is definitely weaker, and sometimes completely absent. The workshop will discuss the impact of crowdsourcing infrastructures on the development process. The workshop will also consider the application of crowdsourcing techniques to increase quality and resilience in the face of work of varying quality or by malicious workers, including using redundant work, tasks with known answers, voting, reviews, reputation, and incentive systems.

Which software engineering problems can be solved with a crowdsourcing infrastructure? Crowdsourcing infrastructures provide new opportunities to the software engineering community, mostly related to the possibility of taking advantage of “computational units” that are smart and autonomous by employing humans, but also generate new issues, as computational units may also become unreliable and untestable. The workshop will discuss how crowdsourcing infrastructures could be effectively exploited to solve SE problems that could not otherwise be effectively solved.

CSI-SE addresses these goals with three parts of the program: First, invited talks from top researchers actively working on crowdsourcing will help to disseminate the key results and established approaches in crowdsourcing to the software engineering community. The invited...
speakers of the workshop are Michael Ernst, University of Washington. Schahram Dustdar, Vienna University of Technology.

Second, paper presentations will encourage dissemination and participation by software engineering researchers actively working with crowdsourcing through sessions. The paper presentation sessions will be two 90 minute sessions where the authors of accepted papers will present both ongoing and completed work in the form of position papers and full papers. We received 13 submissions for CSI-SE 2015, out of which we accepted 9. Each paper was reviewed by three PC members and evaluated according to the criteria of relevance, originality, soundness, maturity and presentation quality. Online discussions about the reviews took place in order to resolve conflict opinions after the reviews were completed. Decisions were made based on the review results as well as the outcomes of the online discussions.

The final session is a 90 minute session aiming at further eliciting collaboration and building a greater sense of community. The session will feature a panel on “Crowd development: a new model for software development?”, intended to explore controversial aspects of the promise and perils of applying microtask crowdsourcing to software development.

Finally, we would like to sincerely thank all authors for their submissions to CSI-SE 2015, the ICSE 2015 organising committee for their continuous support in setting up the workshop, and all program committee members and external reviewers for their effort in reviewing the submitted papers.

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CSI-SE 2015 Co-chairs