Preface

The Workshop on Alternative Workforces for Software Engineering (WAWSE) 2015 is held on December 1st, 2015 in New Delhi, India as part of the Asia-Pacific Software Engineering Conference (APSEC). This workshop is cross-disciplinary, concerning the broad spectrum of crowdsourcing and alternative workforces with applications to software development and engineering. Topics of interest include open source, collaborative work, empirical studies, crowdsourcing, policy, and design as they relate to software engineering. The goal of the workshop is to promote the scientific exchange of advances in among researchers, engineers, and practitioners across a spectrum of disciplines who may otherwise not have the opportunity to interact.

Rapidly changing requirements in business and technology require agile and highly responsive software organizations. In order to be responsive enough for such changes, organizations invest in hiring and training skilled workforces. These processes are typically very costly and time consuming. Hence, many organizations are now exploring non-conventional employment models, alternative workforces, and product development models (such as contract workers, crowdsourcing, and open source software respectively) to address these challenges. The workshop will address the emerging engagement models, tools, and techniques required to address challenges specific to this paradigm.

The workshop invited papers on the following topics:

- Leveraging alternative workforces inside organizations and enterprises
- Crowdsourcing software development activities such as requirements, design, development, testing, deployment, and maintenance.
- Confidentiality and privacy issues in crowdsourced software development.
- Next generation software development models involving multiple workforce types.
- Cloud development environments.
- Crowd-funding for software development projects.
- Open innovation and programming competitions.
- Open source and tools for sharing and collaborating on software.
- Mechanisms for incentivizing the number and quality of contributions to software projects including payments and gamification.
- Empirical evaluation on the benefits of open innovation, crowdsourcing and outsourcing in software engineering.
- Communities such as Q&A forums and Wiki pages on software techniques and tools.
- Incorporating contributions from non-programmers towards software development.
- Policy, labor relations, and law related to alternative workforces in software engineering.
- The use of automation and artificial intelligence in software development.
- Computer supported collaborative work including HCI for collaboration and software engineering.

Workshop Organizers:

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- Elisa Celis (EPFL): elisa.celis@epfl.ch

Program Committee

- Anbang Xu (IBM Research)
- Ali Babar (University of Adelaide)
- Christian Bird (Microsoft Research)
- Donghui Lin (Kyoto University)
- Fabiano Dalpiaz (Utrecht University)
- Fabio Calefato (University of Bari)
- Gargi Dasgupta (IBM Research)
- Gurdeep Virdi (Accenture)
- Jacki O'Neill (Microsoft Research)
- Julian Bass (Robert Gordon University)
- Manish Mehta (Accenture)
- Neha Gupta (University of Nottingham)
- Thomas LaToza (UC Irvine)
- Vibhu Sharma (Accenture)
- Vikrant Kaulgud (Accenture)
- Wei Huang (Google)

Papers: Workshop consists of one keynote presentation, seven paper presentations, and a panel discussion. Out of these, six papers are invited papers and one paper is peer reviewed paper. Selected papers primarily focus on aspects such as quality, trust, people management, ethics, and practical experiences of utilizing crowdsourcing in industries.

Keynote presentation

Speaker: Anand Kulkarni.

Title: Crowds in the Compiler – Augmenting Developers with Programmers in the Crowd

Abstract: Crowd computing asks the question of how software can be used to program crowds of people. How can we use crowds of people to amplify our ability to program? At LeadGenius, we've experimented with using code-savvy members of our international virtual crowd to accelerate the development of our own crowdsourcing platform, writing code virtually alongside our engineers. I'll share results and observations from experiments in multiple scenarios ranging from embedded IDE enhancements to stub-function-converters to direct collaborations between crowd members and engineers. Last, we'll discuss how results from research into pair programming, agile, and other best practices in conventional autonomous software engineering inform and shape results around using the crowd within our programming environments.

Bio: Anand is founder and Chief Scientist of LeadGenius, a Y Combinator, Sierra Ventures, and Andreessen-Horowitz-backed startup using human computation to automate sales at scale. Built on the MobileWorks crowd architecture, LeadGenius applies fair and ethical principles to help crowds of workers find work in the online economy while letting sales team grow their businesses. Internally, LeadGenius uses members of a large international crowd to support multiple

Anand was named as one of Forbes Magazine's "30 under 30" Top entrepreneurs under 30. Anand has published over a dozen papers in ACM and IEEE magazines, journals, and conferences. Anand previously held a National Science Foundation graduate research fellowship in mathematics. He holds degrees in Industrial Engineering and Operations Research, Mathematics, and Physics from UC Berkeley.

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