Software systems have been playing important roles in business, scientific research, and our everyday lives. It is critical to improve both software productivity and quality, which are major challenges to software engineering researchers and practitioners. In recent years, software mining has emerged as a promising means to address these challenges. It has been successfully applied to discover knowledge from software artifacts (e.g., specifications, source code, documentations, execution logs, and bug reports) to improve software quality and development process (e.g., to obtain the insights for the causes leading to poor software quality, to help software engineers locate and identify problems quickly, and to help the managers optimize the resources for better productivity). Software mining has attracted much attention in both software engineering and data mining communities.

The Fourth International Workshop on Software Mining (SoftwareMining 2015) aims to bridge research in the data mining community and software engineering community by providing an open and interactive forum for researchers who are interested in software mining to discuss the methodologies and technical foundations of software mining, approaches and techniques for mining various types of software-related data, applications of data mining to facilitate specialized tasks in software engineering. The participants of diverse background in either data mining or software engineering can benefit from this workshop by sharing their expertise, exchanging ideas and discussing new research results. The series of workshop on software mining was expected to be held in data mining community and software engineering community in turns. The first three workshops of this series were held in conjunction with KDD-2012, ASE-2013, and ICDM 2014, respectively.

In this year, we attracted nine submissions where 56% were from Asia, 22% were North America, and 22% were from Europe. The submissions went through a rigorous reviewing process. Most submissions have received three reviews. The SoftwareMining 2015 chairs examined all the reviews to further guarantee the reliability and integrity of the reviewing process. Finally, five papers are accepted, one of which would be granted the best paper award.

We wish to take this opportunity to thank the program committee members for their efforts and engagements in providing a rich and rigorous scientific program as well as the suggestions to the authors. We wish to express our gratitude to the ASE 2015 workshop chairs. Last but not least, we also want to thank all authors for their contributions and supports. We hope all participants would take this opportunity to share and exchange ideas with one another. We look forward to welcoming you all at SoftwareMining 2015.

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