

FLOSS Research Track at the 10th International Symposium on Open Collaboration (OpenSym 2014)

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ABSTRACT

This is a report from the Free/Libre/Open Source (FLOSS) research track at the 10th International Symposium on Open Collaboration (OpenSym 2014), which took place in Berlin, Germany, August 27-29. As part of a broader community interested in "everything open", including open access, open data, open educational resources, Wikipedia, wikis and open collaboration, this research track was a place to discuss software engineering related issues from various points of view, based on a selection of research papers that was considered by the programme committee. As such, we had contributions on technical (such as the usefulness of automatic bug reporting tools, the implementation of standards, or linking various data sources), community-related (integration, congruence), economic (business models, or the impact of FLOSS in the growth of businesses), and fundamental (such as software forks) matters. We look forward to next year's OpenSym, which will take place 19-21 August 2015 in San Francisco, California, see <http://opensym.org>.

1. INTRODUCTION

The International Symposium on Open Collaboration (OpenSym) is the main research conference on open collaboration, including research on wikis and social networks, Wikipedia, Free/Libre and open source software (FLOSS), open data, open access, IT-driven and open innovation. As such, it is the first with the aim of bringing together the various branches of the open research collaboration, seeking to create synergies and inspire new research among computer scientists, sociologists, lawyers, and anyone interested in understanding how open collaboration and is changing the world. This year, in Berlin, we celebrated the 10th OpenSym.

Although free, libre and open source software can be studied with methodologies and techniques developed for other types of software, it shows many peculiarities (e.g., the degree to which it can be reused, the fact that it is usually built by cooperating communities, or the exploration of new business models) that make it a research case study for itself. Moreover, in many cases, FLOSS also offers new possibilities and opportunities for researchers, such as the availability of detailed data of the development, the open decision-making procedures, or the open and collaborative communities around free software projects, allowing for the development of new techniques and methodologies.

The FLOSS research track is one of the tracks of the peer-reviewed research tracks at OpenSym. The track welcomes research papers on topics related to the different aspects of FLOSS software, from different points of view. Multidisciplinary research is especially welcome, but specific lines within a given field of research also have their place. In any case, the work submitted had to show specific aspects of FLOSS, and should not be limited to show research issues on products that happen to be FLOSS software, but show no other difference beyond that circumstance.

Case studies and presentations from industry were welcome, provided they meet the scientific standards considered by the program committee.

As stated in the call for papers, topics of interest to this track include, but are not limited to:

- FLOSS development, including software engineering aspects
- FLOSS technologies, especially those taking advantage of being FLOSS
- FLOSS communities, including developer, but also user or business communities
- FLOSS and innovation, how both are related, and new innovation models based on FLOSS
- Motivation and incentives to FLOSS development and adoption
- Business models based on FLOSS and sustainability of FLOSS projects
- Legal aspects of FLOSS, including copyright and licensing
- Education and FLOSS
- Impact of FLOSS in specific domains or technological areas, and FLOSS adoption
- Measurement of significant parameters related to FLOSS

2. ACCEPTED PAPERS

We received a total number of 17 papers which were thoroughly reviewed by at least three reviewers (see Programme Committee at the end of this paper). Finally, six long and two short papers were accepted to be included in the proceedings and presented at the symposium. All papers can be found in the Proceedings of the 10th International Symposium on Open Collaboration (OpenSym 2014), ACM, 2014, see <http://dl.acm.org/citation.cfm?id=2641580>. The official place to get the proceedings from is the ACM Digital Library. A short summary of the papers is given next:

Ahmed et al. make a quantitative and qualitative analysis of the impact of reports sent by crash detection tools embedded in Mozilla products on the bug reports handled by the QA Mozilla team [1]. The authors find that fewer than 0.00009% of crash reports end up in a bug report. However as many as 2.33% of bug reports have data from crash reports added. Developers on their hand report that despite some problems, these systems are valuable.

Syeed et al. look at the Ruby ecosystem in GitHub to find out if *Conway's Law* applies [2]. Therefore, the authors create three different graphs: (1) the "Explicit Architecture" is a project graph that represents the technological structure of individual Ruby projects and their dependencies, (2) the "Explicit Coordination Network" is a developer graph obtained from the communication among GitHub developers in the issue management system, and (3) the "Implicit Architecture"

contains all relations among technical entities where developers have communicated. Then the congruence between the graphs is calculated. The result is that there is a much smaller socio-technical congruence in a whole ecosystem than in an individual project -- suggesting that Conway's law does not apply at least to this case.

Lundell et al. presented their research findings related to the adoption of software standards in FLOSS projects by considering one instance of a standard (the RDFa standard) and its implementation within the Drupal project [3].

Tansho and Noda tried to find out if the use of FLOSS in Japanese IT companies has any effect on their business growth [4]. The paper analyzes the results of a prior questionnaire on the use of open source software in Japanese companies. The paper presents both how frequently open source software is used, as well as how much companies contribute back to open source projects. Finally, the paper correlates business growth with utilization of OSS.

Davidson et al. report a study on older adults that want to get involved in FLOSS communities [5]. Many FLOSS surveys show that a large majority of FLOSS contributors are young people, but as the importance and impact of FLOSS grows other contributor profiles should be considered to be integrated into communities. This research shows the challenges and circumstances that older, some of them retired, professionals face when entering some FLOSS communities.

Nyman presented the result of a series of interviews to hackers on the concept and consequences of software forking [6]. The findings highlight how there are different perspectives on how forking is perceived, and how this has changed over time with the popularity of new software development supporting sites such as GitHub.

Last but definitely not least, there were two short papers with ongoing research. First, Viseur presented a study on the FLOSS sector in Belgium [7], in particular its geographical distribution, the activities, technologies and software that is being supported, the business models, their economic success as a company and the relationships among these companies. And finally, Romo et al. offer some insights on the problems that arise when linking development data from two different sources (versioning systems and issue tracking systems) and how they can be circumvented [8].

3. ACKNOWLEDGEMENTS

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3.1 Research Track Organization

We would like to thank as well the Programme Committee:

- Cornelia Boldyreff, University of East London, UK
- Matthijs den Besten, Ecole Polytechnique, France
- Olivier Berger, Institut Mines Telecom, France
- Deborah Bryant, Open Source Initiative, US
- Andrea Capiluppi, Brunel University, UK
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- Adam Wierzbicki, Polish-Japanese Institute of Information Technology, Poland
- Stefano Zacchiroli, Université Paris Diderot, France

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