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IFIP was founded in 1960 under the auspices of UNESCO, following the first World Computer Congress held in Paris the previous year. A federation for societies working in information processing, IFIP's aim is two-fold: to support information processing in the countries of its members and to encourage technology transfer to developing nations. As its mission statement clearly states:

*IFIP is the global non-profit federation of societies of ICT professionals that aims at achieving a worldwide professional and socially responsible development and application of information and communication technologies.*

IFIP is a non-profit-making organization, run almost solely by 2500 volunteers. It operates through a number of technical committees and working groups, which organize events and publications. IFIP's events range from large international open conferences to working conferences and local seminars.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is generally smaller and occasionally by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

IFIP distinguishes three types of institutional membership: Country Representative Members, Members at Large, and Associate Members. The type of organization that can apply for membership is a wide variety and includes national or international societies of individual computer scientists/ICT professionals, associations or federations of such societies, government institutions/government related organizations, national or international research institutes or consortia, universities, academies of sciences, companies, national or international associations or federations of companies.

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Federico Balaguer · Roberto Di Cosmo  
Alejandra Garrido · Fabio Kon  
Gregorio Robles · Stefano Zacchiroli (Eds.)

# Open Source Systems: Towards Robust Practices

13th IFIP WG 2.13 International Conference, OSS 2017  
Buenos Aires, Argentina, May 22–23, 2017  
Proceedings

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ISSN 1868-4238                      ISSN 1868-422X (electronic)  
IFIP Advances in Information and Communication Technology  
ISBN 978-3-319-57734-0              ISBN 978-3-319-57735-7 (eBook)  
DOI 10.1007/978-3-319-57735-7

Library of Congress Control Number: 2017938159

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The registered company is Springer International Publishing AG  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

## General Chair's Message

Free and open source software (FOSS) has gone through a series of phases, from a little-noticed movement, to early industry adoption in the lower levels of the software stack, to inroads in the vertical application market, to merely table stakes in modern software development: In recent years, disruptive applications in the trendy segment of machine learning are natively born as open source. There is no doubt that in just over 20 years FOSS has radically changed the way software is designed, developed, evolved, distributed, marketed, and sold.

One could be tempted to say that since FOSS is now mainstream across all layers of software development, with even its most fierce former opponents turning into fervent adopters, it has reached its maturity phase and there is no longer a need for a specialized forum dedicated to studying it, like the one OSS has been providing for over a decade.

Nothing could be further from the truth: With the huge number of newcomers that now embrace FOSS without having contributed to its evolution, and knowing very little of its values and inner workings, it is now more essential than ever to study, understand, and explain fundamental issues related to the business models, organizational structures, decision-making processes, quality metrics, and the evolution of the free and open source software ecosystems in general.

This effort involves a variety of scientific disciplines, ranging from core computer science, to social sciences and economics, and this work must be performed in close connection with the developer communities that are reshaping our software world daily.

We were, therefore, delighted to see this 13th International Conference on Open Source Systems, OSS 2017, continuing to provide an international forum where a diverse community of professionals from academia, industry, and the public sector, as well as developer communities, come together to share research findings and practical experiences, which form the necessary basis for developing a corpus of good practices that are needed now more than ever.

Organizing a conference always requires dedication and commitment from a motivated core group of people, who deserve the sincere gratitude of all our community. The program chairs, Gregorio Robles and Fabio Kon, spent considerable energy organizing the review process and setting up the conference program. The proceedings, which are for the first time available as Open Access thanks to a generous donation from the IRILL research initiative on free software, have been carefully edited by Stefano Zacchiroli; we do hope that all future conferences will follow this path. Bjorn Lundell, Paulo Meirelles, Diomidis Spinellis, and Megan Squire did a great job of promoting the conference, and Martin Michlmayr took care of the contact with the communities. Imed Hammouda and Greg Madey chaired the Doctoral Consortium, and Alessandra Garrido and Federico Balaguer were great local chairs. Tony Wasserman

provided a precious link with IFIP. Cedric Thomas, OW2's CEO, immediately accepted the invitation to come and share his precious experience in an inspiring invited talk.

Finally, special thanks go to Sebastian Uchitel, the general chair of ICSE 2017, with whom I had the pleasure to work in close connection for more than a year in order to make the organization of the conference possible in Argentina: We were enchanted to have brought OSS 2017 and its community to "mi Buenos Aires querido."

March 2017

Roberto Di Cosmo

## Program Chairs' Message

It is a great pleasure to welcome you to the proceedings of the 13th International Conference on Open Source Systems (OSS 2017). The range of papers published in *Open Source Systems: Towards Robust Practices* is a valuable addition to the existing body of knowledge in the field. Contributions cover a range of topics related to free, libre, and open source software (FLOSS), including: licensing, strategies, and practices; case studies; projects, communication, and participation; tools; project management, development, and evaluation.

The OSS 2017 conference represents a long-standing international forum for researchers and practitioners involved in a range of organizations and projects, to present and discuss insights, experiences, and results in the field of FLOSS. The maturity of research in our field is also reflected in the range and number of excellent contributions received.

We are very pleased to have received 32 contributions (28 full and four short paper submissions) for the technical program, from which we included 16 full papers and three short papers (representing an acceptance rate of 57% for full papers). Every paper received at least three reviews by members of the Program Committee, and was carefully discussed by Program Committee members until a consensus was reached. Based on the reviews for each paper, one of the two program chairs initiated an online discussion among the reviewers in order to reach consensus. The two program chairs facilitated this process for the different papers. All decisions were based on the quality of the papers, which considered the reviews and the outcome of the discussions. We did not have a minimum or maximum number of papers as a target. Five of the 16 papers were conditionally accepted, subject to the authors addressing the reviewers' comments and suggestions.

The program also included a keynote (by Cedric Thomas), a Posters and Tool Demonstration session, and a doctoral consortium with five PhD students presenting their progress to the community.

We want to give special thanks to all the people who allowed us to present such an outstanding program, and we would especially like to mention: the Program Committee members and additional reviewers; the community and publicity chairs; the session chairs; all the authors who submitted their papers to OSS 2017; the general chair (Roberto Di Cosmo), the Doctoral Consortium chairs (Imed Hammouda and Greg Madey), and the local organizers (Alejandra Garrido and Federico Balaguer). We are also grateful to a number of other people without whom this conference would not have happened, and with respect to preparing the proceedings we would like to specifically mention Stefano Zacchiroli for his support.

March 2017

Fabio Kon  
Gregorio Robles





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