

▼ Introduction to Open Movements: Open Source Software and Open Content Minitrack

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This year's minitrack on Open Movements: Open Source Software and Open Content provides a forum for discussion of an increasingly important mode of collaborative content and software development. OSS is a broad term used to embrace software that is developed and released under some sort of open source license (as is free software, a closely related phenomenon). There are thousands of OSS projects spanning a range of applications, Linux and Apache being two of the most visible. Open Content refers to published content (e.g., articles, engineering designs, pictures, etc.) released under a license allowing the content to be freely used and possibly modified and redistributed. Examples of OC are Wikipedia and MIT's Open Courseware.

Researchers from a variety of disciplines have turned their attention to the phenomenon of open content as a successful and intriguing form of Internet-supported collaborative work. The openness of these creative communities creates a variety of new challenges, as team members typically work in a distributed environment and often as volunteers rather than employees. In the case of OSS, for example, the empirical literature on software engineering, programmers and the social and technical aspects of software development suggests that distributed teams would face insurmountable difficulties in developing code, yet in fact some have been remarkably successful. Understanding how such groups work collectively is important because a digital society entails an increased use of Internet-supported distributed teams for a wide range of knowledge work.

As well, open development is an important phenomena deserving of study in its own right. Millions of users depend on systems such as Linux and the Internet relies extensively on OSS tools, but we are still learning how people in these communities coordinate software development and the necessary work practices and organizational contexts. Wikipedia has quickly become an extensive and widely-used information resource, but again without deep understanding of the conditions of its production.

This minitrack brings together three interesting papers addressing various aspects of open content. The first paper, "On the Inequality of Contributions to Wikipedia", by Felipe Ortega, Jesus M. Gonzalez-Barahona and Gregorio Robles analyzes the trends in the inequality of distributions for the ten larger language editions of Wikipedia, and their evolution over time using Lorenz curves and Gini coefficients. They find large differences in the number of contributions by different authors (something also observed in free, open source software development), and a trend to stable patterns of inequality in the long run.

The second paper, "An Exploratory Study on the Evolution of OSS Developer Communities" by Kawin Ngamkajornwiwat, Dongsong Zhang, Gunes Koru, Lina Zhou and Robert Nolker analyzes how social networks of developers evolve over time while building OSS products. Specifically, they studied the evolution of the developer communities using a suite of OSS products developed under the KOffice project. The authors found that communication network density experiences a rapid decrease at the beginning of the project, then stabilizes for a while, and finally slowly increases over time, while group degree centrality shows the opposite pattern.

The final paper, "Shared mental models among open source software developers" by Barbara Scozzi, Kevin Crowston, U. Yeliz Eseryel and Qing Li compares the mental models of four developers from the Apache Lucene Java project using cognitive mapping and process analysis. Their analysis suggests that there is a high level of sharing among core developers but the sharing is not complete, with some differences related to tenure and role in the project.

The three papers present a range of topics important to understanding different aspects of open content. We thank all authors who submitted papers and the reviewers for their contributions to the minitrack.