Open Peer Review CMS Support

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Abstract

Peer reviewing is a crucial step for quality assurance at scientific publishing. The task is time consuming and error-prone due to conflicts of interest, subjective opinions, and different education backgrounds. Open Peer Review (OPR) can solve many of said problems and is already applied to the journal publishing workflow. The poster visualizes the efforts done in the EU project OpenUP to evaluate the usefulness of OPR for conference submissions. Two conference venues will try out specific versions of OPR. The conference management software (CMS) needed to facilitate this process is summarized. The CMS solution HotCRP was chosen among the evaluated options for the pilots. The poster introduces the individual processes of open peer review at the two venues and how this is supported in HotCRP. This shall give conference organizers an insight into what is possible and allow for discussions with the OpenUP team about the selected approaches.

Author Keywords

Open Peer Review; Conferences Management Software; OpenUP; HotCRP

ACM Classification Keywords

H.5.3 Group and Organization Interfaces; I.7.4. Electronic Publishing;

Introduction

Peer reviewing is a crucial step for quality assurance at scientific publishing. The task is time consuming and error-prone due to conflicts of interest, subjective opinions, and different education backgrounds. The traditional double-blind reviewing tries to minimize personal bias and possible backlashing at the cost of accountability and missing visibility of the performed work. On top of this, the number of submitted scientific papers is constantly rising but the numbers of qualified reviewers are stagnating.

Using an open peer review (OPR) process can improve 1) efficiency of peer review through increased participation by a larger number of peers, and 2) quality of the reviews through increased transparency of the process and scrutiny by other peers. This leads to tangible benefits for reviewers and authors alike..

Many publishers of journals are experimenting with this idea and large publishers like Frontiers use OPR per default. However, the application of OPR on conference contributions is still largely not applied. Figure 1 shows a comparison of the traditional peer review process and a variation of OPR

OpenUP Pilot

The EU project OpenUP works on multiple levels to improve openness of scientific research on the aspects of peer review, dissemination of research results, and impact measurements.

Two dedicated pilot studies will investigate the applicability of OPR for conferences on these venues: Second European Machine Vision Forum (EMVA) and the student competition of the eHealth 2018.

Each of the venues uses an individual mix of open peer review concepts. A series of interviews and surveys will evaluate the perceived benefits and fears associated by all user groups (authors, reviewers, conference organizers, and publishers).

OPR for Conferences

A conference management system (CMS) has to manage the different approaches to OPR in the submission, review, rebuttal, verdict phase, and post-conference phase. OPR options we want to support include:

- Open Identity: Authors and reviewers are aware of each other's identity
- Open Participation: A larger community is involved in the reviews
- Open pre-review: early versions of material are public before the review
- Open Report: Review report is published alongside the publication
- Open final-version comments: commenting online possible after the verdict

In a first step a state-of-the-art survey of free existing CMS solutions was conducted. The result can be found in Table 1.

HotCRP was chosen from these candidates due to the following benefits:
- Open source, MIT licensed
- Large adaption/usage
- Still under active development by community
- Integration with other existing CMS (e.g. EasyChair)
- Already existing support for many proposed OPR aspects: Open Identity, Tagging/Voting

Name	URL	Last Commit	License	Programming Language
SCALEreg	https://github.com/herlo/scalereg	2009	GPL	Python/Django
Pentabarf	https://github.com/nevs/pentabarf	2010	GPL	Ruby on Rails
ConMan	https://github.com/herlo/ConMan	2010	GPL	Python/Django
Summit	https://launchpad.net/summit	2012	AGPL	Python/Django
Open Conference Systems	https://pkp.sfu.ca/ocs	2014	GPL	PHP
OpenConferenceWare	https://github.com/osbridge/openconferenceware	2016	MIT	Ruby on Rails
Symposion	https://github.com/pinax/symposion	2016	BSD3	Python/Django
Crowducate	https://github.com/Crowducate/crowducate-platform	2016	AGPL3	meteor.js
A Conference Toolkit	https://github.com/book/Act	2017	Artistic	Perl
Zookeepr	https://github.com/zookeepr/zookeepr	2017	GPL	Python/Pylons
HotCRP	https://github.com/kohler/hotcrp	2017	BSD-like	PHP
Junction	https://github.com/pythonindia/junction	2017	MIT	Python

Table 1: Listing of free existing CMS considered as candidates for the OpenUP Pilot on OPR for conferences

Proposed OPR Variations:

We want to allow a multitude of possible combinations of traditional and open peer review.
These are the specific setups we will test in the two venues (still subject to small changes, finalized for the poster):

EMVA: Submissions are extended abstracts. The decision will be to select the ten most interesting/fitting submissions as talks at the main track. The remainder can be presented at a poster session.
All submissions and the initial reviews (done by assigned reviewers) can be read and discussed by all reviewers and all registered authors of submissions alike (after the submission deadline). The identity of all participants is open and visible. A discussion forum allows all participants to give inputs and remarks about the submissions. The authors can update their submission for a rebuttal. All participants (authors and initial reviewers) can cast votes after the rebuttal deadline. Initial Reviewers get more votes than authors. The program committee has the final decision for the verdict but has to issue a written statement if they diverge from the public voting result. The voting result and the written statements are visible to all participants.

After the conference, a fresh/empty discussion forum is provided for each submission that was present at the conference (i.e. did not retract their submission). This page will be open to the public for anyone to discuss the topic.

eHealth 2018: A student paper competition for eHealth topics is held. Based on a final ranking the winners will be chosen.

Initially, the eHealth conference will be using a traditional double-blind review phase. Each author can than refine their submission and submit a rebuttal together with a revised version of their paper. Now the review process is opened. Three authors are chosen from the pool of all authors randomly for each submission (called layman reviewers, see Figure 1). In the following discussion phase all authors and reviewers of the conference can discuss openly the papers with open identity and how the review inputs have been addressed. At the end of the discussion phase all layman reviewers can cast votes as well as the initial reviewers (retaining their anonymity). The verdict and final ranking is based on the votes of all members.

Progress:

We are currently in the process of adding the needed functionality to HotCRP. All software is released as open source and we try to push the changes back to the official HotCRP trunk. Evaluation of the chosen CMS support is currently on-going. The poster will contain a description of the above possible open peer review options and how these are implemented in HotCRP. In addition we will include the initial results from our first pilot study (2nd EMVA Forum).
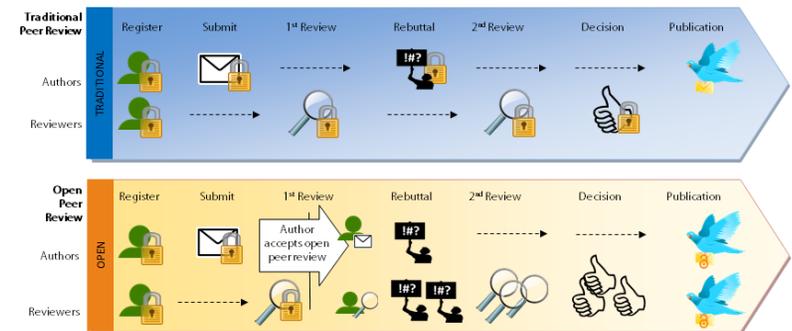

Figure 1: Comparison of traditional peer review and one variation of OPR; graphic taken from "OpenUp Peer Review"; Oliver Zendel and Michaela Vignoli and Matthias Schörghuber; Open-Access-Tage 2016 Munich