This paper proposes an architecture and assignment management model of a conference management system that performs a precise and accurate automatic assignment of reviewers.
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to papers. The system relies on taxonomy of keywords to describe papers and reviewers’ competences. The implied hierarchical structure of the taxonomy provides important additional information – the semantic relationships between the separate keywords. It allows similarity measures to take into account not only the number of exactly matching keywords between a paper and a reviewer, but in case of non-matching ones to calculate how semantically close they are. Reviewers are allowed to bid on the papers they would like to (or not like to) review and to explicitly state conflicts of interest (CoI) with papers. An automatic CoI detection is checking for additional conflicts based on institutional affiliation, co-authorship (within the local database) and previous co-authorship in the past (within the major bibliographic indexes and digital libraries). The algorithm for automatic assignment takes into account all – selected keywords, reviewers’ bids and conflicts of interest and tries to find the most accurate assignment while maintaining load balancing among reviewers.

Reference

- Kalmukov, Y., B. Rachev. Comparative Analysis of Existing Methods and Algorithms for Automatic Assignment of Reviewers to Papers. Journal of Information Technologies and Control 2010:(2), ISSN 1312-2622
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  - ConfMaster, http://www.confmaster.net/
  - ConfTool CMS, http://conftool.net/
  - CrossRef:CrossCheck, a plagiarism detection service, http://www.crossref.org/crosscheck/index.html
  - CyberChair CMS, http://www.borbala.com/cyberchair/
  - DBLP Computer Science Bibliography, http://www.informatik.uni-trier.de/~ley/db/
  - Docoloc, http://www.docoloc.de/
  - EasyChair CMS, http://www.easychair.org/
  - Editorial Assistant (EDAS), http://edas.info/
  - LinkedIn, http://www.linkedin.com/
  - PlagAware, http://www.plagaware.com/
  - PlagScan - plagiarism checker, http://www.plagscan.com/
  - Scientific Literature Digital Library and Search Engine CiteSeer, http://citeseerx.ist.psu.edu
  - The Friend of a Friend (FOAF) project, http://www.foaf-project.org/

Index Terms

Computer Science
Knowledge Management

Key words

Conference management systems
Assignment of reviewers to papers
Software architecture
Web applications

Conflicts of interest detection

Bidding on papers