

EXPERIENCES WITH WEB-BASED SCIENTIFIC COLLABORATION: MANAGING THE SUBMISSION AND REVIEW PROCESS OF SCIENTIFIC CONFERENCES

BOB MARTENS¹; TOMO CEROVSEK²

¹Department of Architecture and Regional Planning, Vienna University of Technology
Karlsplatz 13, A-1040 Vienna, Austria
b.martens@tuwien.ac.at

²Faculty of Civil and Geodetic engineering, University of Ljubljana
Jamova 2, SI-1000 Ljubljana, Slovenia
tcerovse@fgg.uni-lj.si

This paper discusses the logistics of the submission and review process of conference entries by means of a “free”, web-based application. In the framework of the SciX-project - an acronym for “Open, self organising repository for scientific information exchange”, SOPS (“SciX Open Publishing Services”) has been developed. The SciX-project framework has already been elaborated in the ELPUB 2002 contribution [1] and on the occasion of ELPUB 2003 the creation of a Digital Library for ELPUB was presented [2]. An outline of SOPS as an publishing aid for conference organizers will be worked out in this paper, using the case study of the IAPS 2004 conference. The SOPS-conference application provides the functionality to support the organisation of a conference. It handles the registration of participants, submission and reviewing of abstracts, full-paper submission, reviewing and publishing. By means of other SOPS-services already a repository with previous conference papers has been realized for the IAPS-association.

Keywords: database; web-based interface; shared information; self-organization; collaboration

1. INTRODUCTION

In the pre-internet age the organisation of a conference was mainly based on conventional paper mail. Submitters would send their abstracts to a conference secretary, who duplicated and forwarded these to reviewers. After this, the reviewers returned their reports, again by conventional mail. Final notifications were transmitted in the same way. The whole procedure took a relatively long time and data had to be retyped again and again. The use of fax-machines increased the speed of communication. Even so, this caused additional work in the duplication and distribution of information. In this respect a self-submission of data by authors was limited to the submission of a piece of paper or a fax.

Sending a diskette containing a data document - still by conventional mail - became popular as soon as personal computers became widely available. When the internet became widely available to the academic community, alternative ways of transmitting and handling data were provided. Although the use of attachments to an email-message is still used to transfer bits and bytes of data (with a certain level of manual handling), several web-based interfaces for different kinds of collaboration have been developed.

In the course of time the use of internet applications became increasingly sophisticated, avoiding the disadvantages of slowish conventional mail and manual handling of information from

isolated data documents. Especially for the organisation of (annual) conferences submission and review sites were set up and further developed from year to year.

In this paper, the development of a modular software interface based on the SciX architecture will be presented. This “Open Access” interface has been used successfully for conferences, varying in size between 100 and 500 submitters and up to 100 reviewers. With the same architecture, SciX is currently hosting digital libraries in the field of CAAD, Construction Informatics, Electronic Publishing, Environmental Studies and Planning. The SciX-project - Open, self organising repository for Scientific information eXchange - is funded by the European Commission in order to demonstrate the feasibility of alternative models of scientific publishing made possible by the internet (www.scix.net). In the framework of the ELPUB 2002-conference an overview of this project has been delivered [1].

1.1. SPECIFICATION OF THE CONTEXT

The subject matter of this paper seems at a first glance to be nor particularly novel. There exist a number of electronic submission and review systems for conferences, which have been around for several years. An important issue, however, is the extent to which platforms to run conferences and workshops are made freely available and support the idea of Open Access. As far as could traced back, so far no papers were explicitly dedicated to this topic within the series of ELPUB-conferences.

In this paper the implementation and use of SOPS for the IAPS 2004 conference (up to 500 participants are expected) will be elaborated in terms of support for following activities: 1) registration of participants with extended profiling, 2) multi stage on-line submission (handling of abstracts and full papers), 3) automation of review assignment process, 4) review of submissions according to a predefined set of criteria with an adjustable voting mechanism and 5) notification of involved actors about assigned tasks, forthcoming deadlines and events. The solution is not to be regarded as one of a kind, but based on a modular software architecture. Depending on the specific characteristics of a certain series of conferences, a tailored customisation is feasible. Furthermore, the system also includes electronic publication tools.

1.2 RELATED EFFORTS

A number of commercial web-based services are designed to aid organizers in managing several components of their conference as efficiently as possible, freeing time and resources to be devoted to promoting and running a successful conference. In general, collaborative online authoring, submission, and scheduling are facilitated. A survey on these services showed that the range of offered features among companies is interchangeable and scalable, such as:

- Online abstract and paper submission
- Online review and scheduling
- Email notifications of authors

- Creation of author and title indexes
- Scheduling of sessions
- Posting of abstracts and schedules on the web
- Creation of data needed for the printed program and/or conference proceedings
- Handling of registration and payment
- Post conference archiving facilities

Nine companies have been examined more closely and these will be displayed in alphabetical order. However, this does not include a claim of completeness, as this is a fast and moving field of business:

Provider: **Abstract Management Publishing System**

Company: Database Publishing Group Inc. [USA]

<http://www.dbpub.com>

Provider: **Abstract Management System (AMS)**

Company: [USA]

<http://ams.cos.com/>

Provider: **Call for Papers and Session Information Manager**

Company: Alliance Tech [USA]

<http://www.teamtech.com/sim.html>

Provider: **Conference 3.5 and Virtual Conference 3.5**

Company: WingateWeb [USA]

<http://www.wingateweb.com/pub/home.jsp>

Provider: **ConferenceSys**

Company: Cambridge Publication [UK]

<http://www.the-conference.com>

Provider: **On-Line Abstract Submission and Conference Management Company:**

The Conference Exchange

<http://www.confex.com/ams.htm>

Product: **Precis**

Provider: Precis Abstract Management

<http://www.preciscentral.com/>

Product: **scolars.com**

Provider: Westpoint Conference Services [Canada]

<http://www.scolars.com/>

Product: **Webabstracts.com**

Provider: WebAbstracts.com Services Inc. [Canada]

<http://www.webstracts.com>

In all these cases, no reference towards Open Access could be found. Financial figures are not displayed, as the request to a sales department is standard. Free, open source platforms have also been developed, such as:

Product: VSIS ConfTool

Provider: Verteilte Systeme und Informationssysteme - VSIS [Germany]

<http://vsis-www.informatik.uni-hamburg.de/information/conftool.en.html>

Product: ConfMan (Conference Manager)

Provider: Consortium Univ. of Oslo/Cottbus/Darmstadt [Europe]

<http://www.ifi.uio.no/confman/demo/>

Product: Start ConferenceManager

Provider: SoftConf

<http://www.softconf.com/>

Remark: Version V1 is freeware

These products are free of charge for non-commercial use. The specific difference with the SOPS-services is the connection with a Digital Library Environment and the wider working field of Electronic Publishing.

The size of conference support, which is targeted in this paper, is not to be seen as mega-event with thousands of participants. On the contrary, up to 500 attendees is the applicable number, without intensive sponsoring from the industry or institutions. This means, that the income from the conference fees defines the financial basis of a such a venue: typically a 3-day event with a level of feeing around 300-400 Euros. Unless an exceptional amount of sponsoring or other financial sources can be acquired, there is a strong demand to keep the overhead costs as low as possible in order to balance income and expenses. The examples on the above mentioned websites refer - as it seems - to a larger number a participants (see for example "Conference Exchange": the handling of meetings from 100 to 6000 abstracts). "Precis" offers an interesting cost calculator to perform an analysis on processing expenditures.

With increased costs and business risks associated with face-to-face events and decreased attendance due to economic conditions, some associations are looking to provide interactive, virtual events. For example "Virtual Conference 3.5" offers virtual meeting technology via a Web browser.

1.3 ACTORS AND ACTIVITIES

A brief description of actors and their activities seems to be useful to set out the requirements and to get an overview of the different (partly overlapping) activities in charge:

Requirements for attendees:

- Creating personal itineraries, including schedules of sessions to attend and abstracts for those sessions;
- Searching databases to access abstracts;
- Accessing services on their personalized login.

Requirements for authors:

- Abstract and full paper submission, in multiple categories;
- Tracking the status of entries and utilizing services on their personalized login;
- Receiving current conference details and planning personal itineraries.

Requirements for reviewers:

- Reviewing and commenting on entries online;
- Printing documents easily for off-line review;
- Accessing services on their personalized login.

Requirements for organizers/editors:

- Using electronic alternatives to eliminate vast amounts of paperwork;
- Reducing temporary staffing, printing and postage costs
- Eliminating the repetitive preparation of letters, reports, indices etc.;
- Customizing of services to meet organizational requirements cost-effectively;
- Planning and managing the entire conference online, including submission, review, scheduling and program printing.

It has to be stated that in many conferences a substantial high number of attendees is also “author”. Furthermore a reviewer can also act as “attendee” and/or “authors”.

2. ELPUB AND SCIX OPEN PUBLISHING SERVICES (SOPS)

Ironically, although ELPUB stands for EElectronic PUBLISHing, the ELPUB-proceedings have not been published electronically before the 9th conference in 2003. The “history” of ELPUB started in 1997. Nearly all papers from the early days of ELPUB are archived (on paper) and have been digitized in the meanwhile to produce e-prints. The ELPUB-2003-paper (Martens, Linde and Turk, 2003) presented the setup of a Digital Library by using the SciX-architecture (elpub.scix.net). At the time of writing exactly 250 entries are recorded in this library, from which 211 provide full papers in pdf-format. Open Access to this library is available after a free registration has been granted. SciX Open Publishing Services (SOPS) is a modular software that allows setting up various on-line scientific publishing media (including workflow support) such as:

- personal archives,
- institutional archives,
- topical archives,

- electronic journals,
- electronic conference proceedings,
- etc.

SOPS is built using WODA (Web Oriented DAtabase), which was created and established by Ziga Turk (University of Ljubljana) originally for the CIB W78 Workshop in 1996 [3]. A simple version of the current solution was made available in 2001 for a national conference by Tomo Cerovsek (<http://www.ikpir.com/gi2001/>) and went through a process of continuing improvements/adaptations for the international ECPPM 2002 conference (2002.ecppm.org). Tomo Cerovsek customized the solution for the IAPS 2004 conference (iaps2004.scix.net) in the framework of the SciX-project.

2.1 CASE STUDY OF THE IAPS 2004 CONFERENCE

The previous situation of ELPUB regarding availability of e-prints is not unique and applies to many other academic associations. The International Association for People-Environment Studies (IAPS), for example, has a much longer history than ELPUB, as its activities started more than three decades ago. IAPS is aware of the fact that their presence particularly in Eastern-Europe could be improved, whereas a digital library would serve as a strong accompanying measure. The kick-off with a self-organising repository has already been accomplished (<http://iaps.scix.net>). Currently 2.338 contributions from 1969 on have been recorded and 1.048 full papers in pdf-format are provided. Instead of searching individual proceedings one by one, an overview search can be performed by the end-user more conveniently.

In the case study, the submission and reviewing of abstracts, as well as full-paper submission and subsequent revisions will be presented for the IAPS 2004 conference. Recent IAPS conferences used fax and email communication and transferred word-documents.

2.2 TECHNICAL DETAILS

The solution is based on WODA [3]: a library of CGI functions written in PERL. Since this library is freely available, one only needs a web server that can handle PERL scripts. Based on the data definition set up by the owner of the database, and parameters passed as a part of the URL, WODA automatically generates appropriate Web pages, which are used for adding, updating, searching and reviewing of records, as well as for administration. Typically one would create one definition (A PERL script that calls WODA library) per typical object (e.g. user or submission). These definitions represent tables, which can be relationally linked. The engine itself offers a broad range of facilities, such as full-featured natural language search, category based browsing, and simple email based agent for automatic notification that operates data in any of the created tables. The quality of application depends on appropriate utilisation and customisation of features, which may – with additional knowledge of PERL – exceed expectations. Since WODA embodies agent based technologies two communication channels are used between authors and organizers: (1) web based application, and (2) email.

2.3 SUBMISSION AND REVIEW PROCESSES

A Web-based solution acts as a communication channel between submitters and organizers/editors. Any potential user must first of all register (creation of account) to gain access to the system, which allows him/her to add/modify submissions and get feedback. The availability of information stored in the database, depends on permissions set for particular type of users that can be: author, reviewer, conference editor/administrator, or conference secretary. Permissions may be set at several levels: 1) tables, 2) records, and 3) fields, and 4) web-page views level (allowed parameters and paths). These permissions can be changed during the publishing life cycle and in general they can be changed – according to the type of review process that was selected by a particular organising committee. For example, in the framework of the IAPS 2004 conference the blind review procedure of abstracts and full papers was setup.

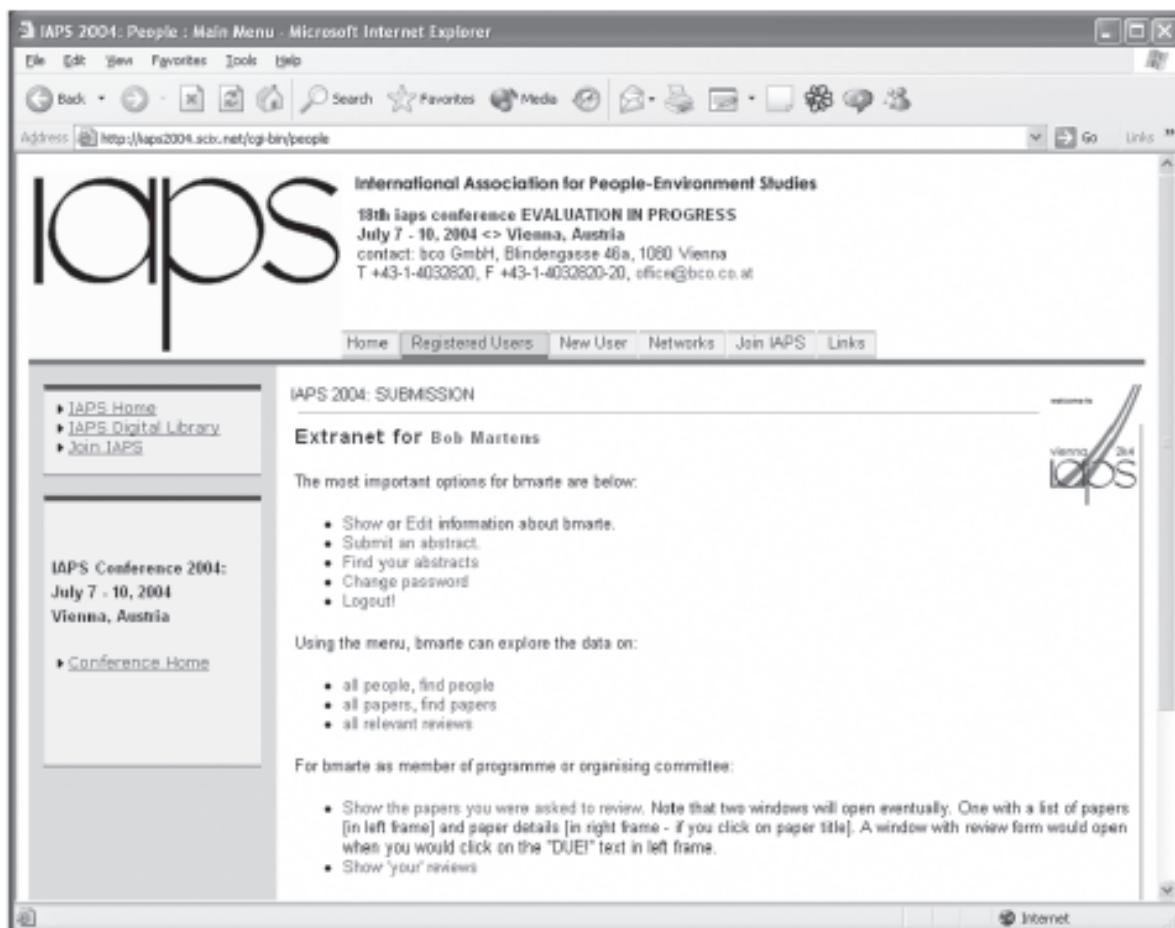


FIGURE 1. THE VIEW OF THE SUBMITTER.

2.4 THE ROLE OF AUTHORS AND REVIEWERS

The registration procedure allows users to enter personal details and select his/her username and password, as well as additional information may be required. For example, in the case of iasp2004.scix.net, three to five (out of a list of 20) predefined keyword areas (describing area of expertise) had to be selected. These keywords were later used in order to facilitate the allocation of submissions to suitable reviewers. Through a personal login user may use the system as a

participant only, an author or maybe promoted to a reviewer. Options, available to an user, are given through simple list of links (fig. 1).

The user can submit an abstract, may re-examine submitted data, as well as observe the status of an individual submission. If the abstract is accepted, a user can upload the following full-text version to the server for review. Since the author may be at the same time a reviewer he has access to the interface for reviewers and do the work on his/her assigned reviews. In order to reduce unproductive communication between authors and organizers, the interface is quipped with features like “forgot your passwords”, or “formatting errors”.

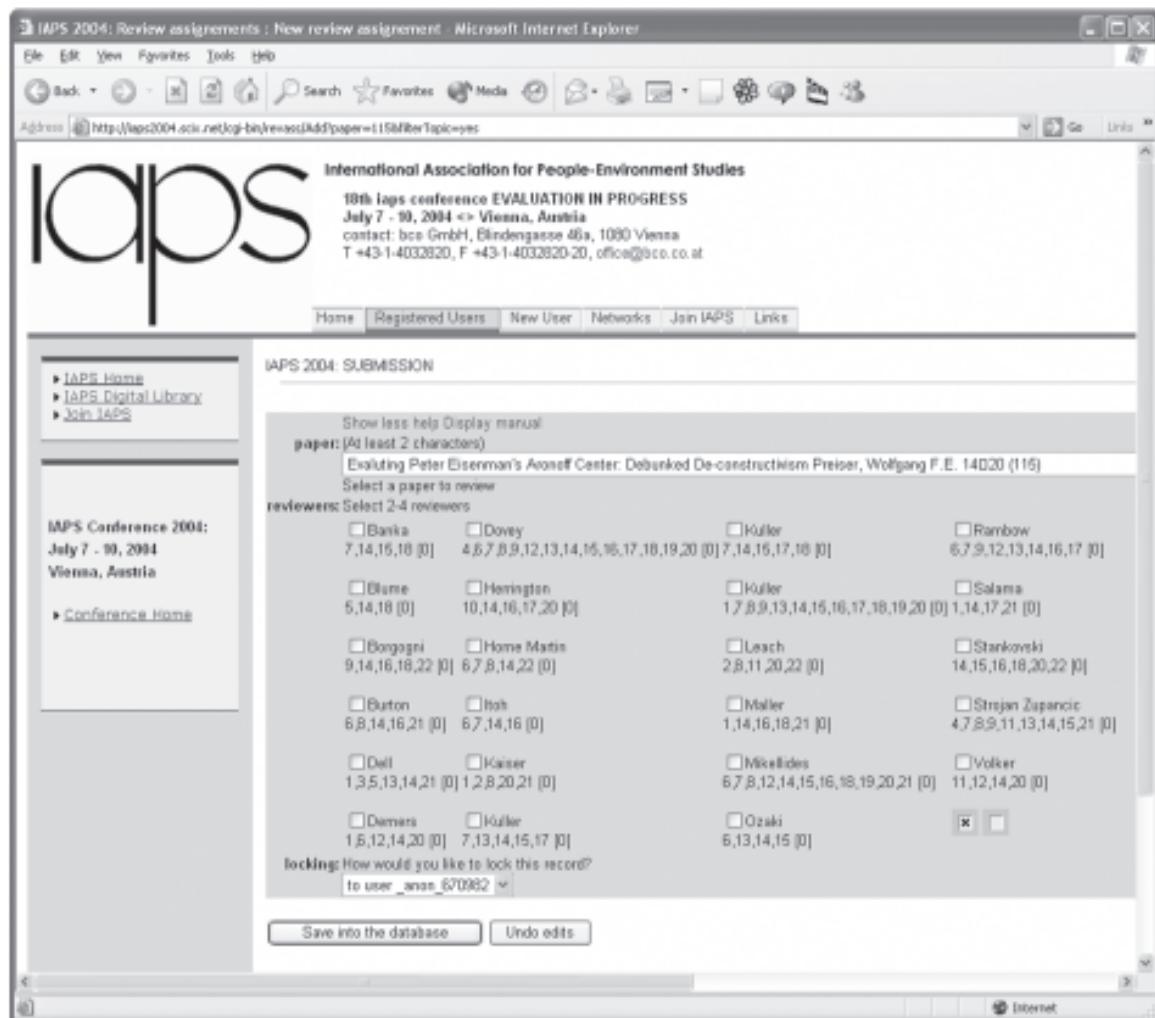


FIGURE 2. SELECTION OF REVIEWERS BASED ON AREA OF EXPERTISE AND ALLOCATIONS.

2.5 THE ROLE OF ORGANIZERS AND EDITORS

After the submission deadline has passed, reviewers must be assigned to the individual entries. However, this may cause difficulties, as specific areas of expertise have to be matched both on the side of the submitters as well as the reviewers. The solution is based on an efficient key wording system. Main requirements for automatic assignment procedure were: 1) equally

distribute the work load among reviewers, 2) “automatically find” the most appropriate reviewers for particular papers; 3) quickly depict status of different review assignments; and 4) automatically manage notifications. Figure 2 illustrates an automatic review assignment form with a suggested – filtered list of reviewers for a particular paper.

Subsequently, the use of the web-based interface supports finalisation of decisions and notification within condensed timelines. In cases where this type of work is not database-driven, a high potential for mistakes exists. Recognition of double entries etc. must be regarded as extremely important in this context. The use of semi-automated classification techniques has also been implemented to allow clustering of entries with similar topics into coherent sessions. A decisive advantage of WODA is that it keeps internal Audit Trail that allows editors to recall status of particular submission/user at certain point of time. A full list of the editorial options is shown in figure 3.

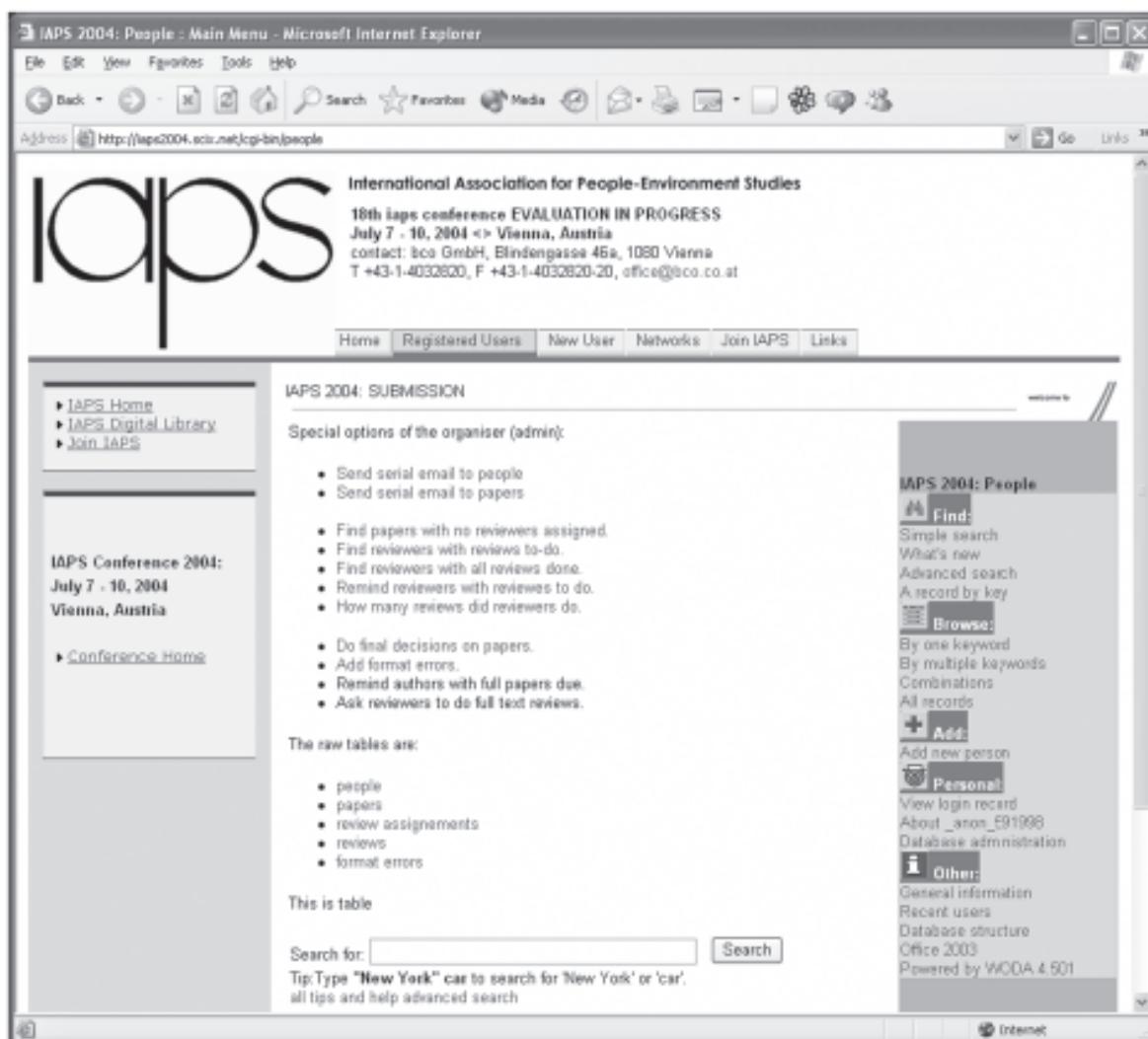


FIGURE 3. OVERVIEW ON EDITORIAL OPTIONS.

During the whole procedure, both submitters and reviewers, as well as “officials” (of the hosting associations) in charge, were able to monitor the actual status.

3.SOPS: LICENSING, REQUIREMENTS AND SERVICES

SOPS is multilingual and exists in English, German and Slovenian language. Upon agreement of the software license, SOPS can be used for free. However, the customisation of a specialized SOPS-solution can not be realized for free, as manpower is needed. In most cases setting up a new service is not asking for specific input other than filling out a web form. Different types of licensing are imaginable in the sense of Open Source an interesting overview is available at <http://www.opensource.org/> The current version of the SOPS-License can be found under Appendix A.

3.1 BASIC REQUIREMENTS THE FOLLOWING INFRASTRUCTURE IS NEEDED FOR SOPS:

- A server connected to the Internet with about 20 megabytes of free space and additional 4 megabytes for each language version and related data space. Minimal hardware would be an Intel Pentium 133 Mhz class machine.
- An httpd server, such as Apache or Xitami.
- WODA Database and Web services generator.
- A person with some knowledge of Web Servers and PERL language.

The installation of WODA environment is a key requirement; it enables that the footprint of the individual services is compact and therefore manageable by the person installing and managing SOPS. WODA is documented at www.ddatabase.com. WODA is a standalone database management system and Web Services generator for the World Wide Web. It consists of a PERL program e.g. woda-max.pl (also called the Woda engine) and several support programs (typically in /usr/local/woda), icons and javascripts (in /document-root/woda/). Each individual service is defined in the service definition file (definition). This file defines the data dictionary, customizes the user interface and then calls the engine to process the user request and generate the appropriate HTML or XML page.

Most of the applications and functions may be run whether on Unix, Linux or Windows operating systems meeting the requirements mentioned above. Solutions to troubleshooting to any WODA based web applications are available on the web and continuously supported by the author of the engine.

3.2 ADVANCED SERVICES

The following services are available:

- web services providing an API for any third party WSDL aware software
- transaction matrix manipulation utility
- http log analysis,

- personal profile services,
- collections statistics generator, similarity explorer,
- integration services,
- clustering services,
- data visualisation utility web services,
- citation analysis,
- and scientific conference submission and review process support.

Clustering is implemented as a web service. Since clustering procedures may take quite a long period of time, several mechanisms still should be developed to enable real-time use of the service. The purposes of clustering are to:

- group similar papers, for example to defined sessions of a conference;
- provide navigation and browsing through the collection;
- establish relations between users and submitted entries, for example for the purpose of assigning reviewers.

There are two main sources of data, which may be used to perform clustering techniques: “objective” metadata about papers, and textual content as well but on “subjective” user’s use of the papers.

4. CONCLUSIONS

The World-Wide Web has become the de-facto platform for collaboration. In contrast to earlier collaborative systems, which created their own proprietary collaboration protocols, current systems rely on the familiarity and ubiquity of web browsers and the standardisation of HTTP and IP protocols to ensure the acceptance of their software. In general, even simple and low-cost Web-based solutions have proven successful and easy to use in terms of flexible handling of the information and by this providing content for special interest groups. Programming knowledge is not a prerequisite for the final end-user. This is of high interest for the organization of conferences with up to 500 participants and which are mainly financed by conference fees.

The SciX Open Publishing Services (SOPS) demonstrates the approach to open archiving and open publishing. From the range of SOPS-services, in this paper the conference application has been highlighted. It has to be stated that particularly the workflow in conference support is rather different from for example an e-journal or a digital library.

REFERENCES

- 1 Bjoerk, B.-C.; Turk, Z.; Martens, B. *Re-Engineering the Scientific Publishing Process for the “Internetworked” Global Academic Community*, ELPUB 2002 Conference, Karlovy Vary, Czech Republic, 2002, p. 152-159
- 2 Martens, B.; Linde, P.; Turk, Z. *A Digital Library for ELPUB Proceedings: The Use of a Web-Based Prototype*, ELPUB 2003 Conference Proceedings, Guimares, Portugal, 2003, p. 363-371
- 3 Turk, Z. *WODA: A Slim Web Oriented Database, Heterogeneous and Internet Databases*, Hong Kong: University of Hong Kong Press, 1999, p. 95-109

APPENDIX A: SOPS LICENSE

This Open Software License (the “License”) applies to any original work of authorship (the “Original Work”) whose owner (the “Licensor”) has placed the following notice immediately following the copyright notice for the Original Work: **“Licensed under the Open Software License version 1.0”**

LICENSE TERMS

1) Grant of Copyright License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, non-sublicenseable license to do the following:

- a) to reproduce the Original Work in copies;
- b) to prepare derivative works (“Derivative Works”) based upon the Original Work;
- c) to distribute copies of the Original Work and Derivative Works to the public, with the proviso that copies of Original Work or Derivative Works that You distribute shall be licensed under the Open Software License;
- d) to perform the Original Work publicly;
- e) to display the Original Work publicly.

2) Grant of Patent License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, non-sublicenseable license, under patent claims owned or controlled by the Licensor that are embodied in the Original Work as furnished by the Licensor (“Licensed Claims”) to make, use, sell and offer for sale the Original Work. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, non-sublicenseable license under the Licensed Claims to make, use, sell and offer for sale Derivative Works.

3) Grant of Source Code License. The term “Source Code” means the preferred form of the Original Work for making modifications to it and all available documentation describing how to access and modify the Original Work. Licensor hereby agrees to provide a machine-readable copy of the Source Code of the Original Work along with each copy of the Original Work that Licensor distributes. Licensor reserves the right to satisfy this obligation by placing a machine-readable copy of the Source Code in an information repository reasonably calculated to permit inexpensive and convenient access by You for as long as Licensor continues to distribute the Original Work, and by publishing the address of that information repository in a notice immediately following the copyright notice that applies to the Original Work.

4) Exclusions From License Grant. Nothing in this License shall be deemed to grant any rights to trademarks, copyrights, patents, trade secrets or any other intellectual property of Licensor except as expressly stated herein. No patent license is granted to make, use, sell or offer to sell embodiments of any patent claims other than the Licensed Claims defined in Section 2. No right is granted to the trademarks of Licensor even if such marks are included in the Original Work. Nothing in this License shall be interpreted to prohibit Licensor from licensing under different terms from this License any Original Work that Licensor otherwise would have a right to license.

5) External Deployment. The term “External Deployment” means the use or distribution of the Original Work or Derivative Works in any way such that the Original Work or Derivative Works may be accessed or used by anyone other than You, whether the Original Work or Derivative

Works are distributed to those persons, made available as an application intended for use over a computer network, or used to provide services or otherwise deliver content to anyone other than You. As an express condition for the grants of license hereunder, You agree that any External Deployment by You shall be deemed a distribution and shall be licensed to all under the terms of this License, as prescribed in section 1(c) herein.

6) Warranty and Disclaimer of Warranty. LICENSOR WARRANTS THAT THE COPYRIGHT IN AND TO THE ORIGINAL WORK IS OWNED BY THE LICENSOR OR THAT THE ORIGINAL WORK IS DISTRIBUTED BY LICENSOR UNDER A VALID CURRENT LICENSE FROM THE COPYRIGHT OWNER. EXCEPT AS EXPRESSLY STATED IN THE IMMEDIATELY PRECEEDING SENTENCE, THE ORIGINAL WORK IS PROVIDED UNDER THIS LICENSE ON AN “AS IS” BASIS, WITHOUT WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE WARRANTY OF NON-INFRINGEMENT AND WARRANTIES THAT THE ORIGINAL WORK IS MERCHANTABLE OR FIT FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY OF THE ORIGINAL WORK IS WITH YOU. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO LICENSE TO ORIGINAL WORK IS GRANTED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

7) Limitation of Liability. UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL THE LICENSOR BE LIABLE TO ANY PERSON FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER ARISING AS A RESULT OF THIS LICENSE OR THE USE OF THE ORIGINAL WORK INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PERSON SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY’S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

8) Acceptance and Termination. Nothing else but this License (or another written agreement between Licensor and You) grants You permission to create Derivative Works based upon the Original Work, and any attempt to do so except under the terms of this License (or another written agreement between Licensor and You) is expressly prohibited by U.S. copyright law, the equivalent laws of other countries, and by international treaty. Therefore, by exercising any of the rights granted to You in Sections 1 and 2 herein, You indicate Your acceptance of this License and all of its terms and conditions. This license shall terminate immediately and you may no longer exercise any of the rights granted to You by this License upon Your failure to honor the proviso in Section 1(c) herein.

9) Mutual Termination for Patent Action. This License shall terminate automatically and You may no longer exercise any of the rights granted to You by this License if You file a lawsuit in any court alleging that any OSI Certified open source software that is licensed under any

license containing this “Mutual Termination for Patent Action” clause infringes any patent claims that are essential to use that software.

10) Jurisdiction, Venue and Governing Law. You agree that any lawsuit arising under or relating to this License shall be maintained in the courts of the jurisdiction wherein the Licensor resides or in which Licensor conducts its primary business, and under the laws of that jurisdiction excluding its conflict-of-law provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any use of the Original Work outside the scope of this License or after its termination shall be subject to the requirements and penalties of the U.S. Copyright Act, 17 U.S.C. Â§ 101 et seq., the equivalent laws of other countries, and international treaty. This section shall survive the termination of this License.

11) Attorneys Fees. In any action to enforce the terms of this License or seeking damages relating thereto, the prevailing party shall be entitled to recover its costs and expenses, including, without limitation, reasonable attorneys’ fees and costs incurred in connection with such action, including any appeal of such action. This section shall survive the termination of this License.

12) Miscellaneous. This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable.

13) Definition of “You” in This License. “You” throughout this License, whether in upper or lower case, means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, “You” includes any entity that controls, is controlled by, or is under common control with you. For purposes of this definition, “control” means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

This license is Copyright (C) 2002 Lawrence E. Rosen. All rights reserved. Permission is hereby granted to copy and distribute this license without modification. This license may not be modified without the express written permission of its copyright owner.

1.1 CHANGES OF THE LICENSE FOR SOPS

In clause 1 add:

f) to perform or display the Derived Work publicly with the proviso that Derivative Works that You perform or display shall be licensed under the Open Software License;

Clause 3 should read:

3) Grant of Source Code License. The term “Source Code” means the preferred form of the Original Work for making modifications to it and all available documentation describing how to access and modify the Original Work. Licensor hereby agrees to provide a machine-readable copy of the Source Code of the Original Work along with each copy of the Original Work that Licensor distributes, performs or displays publicly. Licensor reserves the right to satisfy this obligation by placing a machine-readable copy of the Source Code in an information repository reasonably calculated to permit inexpensive and convenient access by You for as long as Licensor continues to distribute the Original Work, and by publishing the address of that information repository in a notice immediately following the copyright notice that applies to the Original Work.