Progress Report

Development of Linköping University Electronic Press Publication Service

A Project Conducted by Linköping University Electronic Press with Funding from Kungliga Biblioteket, BIBSAM

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Background

In the Autumn of 2006, Linköping University Electronic Press (LiU E-Press) was granted funding from Kungliga Biblioteket, BIBSAM, to test and evaluate the possibility of providing a Journal Publication Support Service for Open Access journals from universities in Sweden. Approximately four years ago, LiU E-Press developed JARSS (Journal Article Review Support System) as an editorial support system for the Elsevier journal, Artificial Intelligence Journal, where it has been in use ever since. It has been tested and developed in that role and was seen to be ready to be offered to those interested in using it.

JARSS is an internet-based software package used for keeping track of articles from the point of initial submission to a journal or conference, through the editorial/reviewing process to the point of publication. JARSS itself does not have publishing capacity but is easily coupled with any publishing system. In addition to keeping track of articles and editors and reviewers assigned to an article (together with deadlines and reminder dates), JARSS also provides an email system which organizes communication so that out-going and in-going emails are automatically sorted into the mailbox for a relevant article. An overview of JARSS can be found in Appendix 1.

The objective of this project was to explore the possibilities of LiU E-Press offering JARSS to Open Access journals from Linköping and other Swedish universities. Part of the objective has been to gauge the extent of the interest in such a service and part has been to perform technical tests of running multiple versions of JARSS on a single server (each journal gets its own installation of JARSS and in this way the look and workflow can be customized to fit specific desires). The software behind JARSS itself is not on offer, partly because it is written in LISP, a commercial programming language and partly so that LiU E-Press can provide technical support for the system.

Survey of Existing Editorial Support Systems

There is a number of editorial support systems available in the public domain (i.e. without cost). The following list is most likely not exhaustive, however, it includes the most commonly cited systems:

- Open Journal Systems, Simon Fraser University
- JARSS, Linköping University
- ePublishing Toolkit
- HyperJournal
- GapWorks, German Academic Publishers
- Digital Peer Publishing

Of these, by far the most widely used is OJS. For many of the rest, the support and usage is somewhat unclear, making them impractical for most small operations, especially considering the usual lack of technical expertise within an editorial group. At LiU E-Press we tested OJS as a comparison with the functionality of JARSS, with the conclusion that the two systems are remarkably similar. OJS is designed for larger operations than JARSS; roles for copy editors, layout editors, proofreaders are built into OJS whereas JARSS only has explicit roles for Administrator/Editor in Chief and Associate Editor. In both cases the work flow can be tailored to a specific application and both allow some, although not complete, ability to modify the appearance of the interface. Both have the possibility for multiple languages. OJS has the possibility for built-in publishing. JARSS, on the other hand is purely an editorial
support system. The biggest difference between the two systems is in the email handling. Both systems allow email to be sent from the system to authors, reviewers etc., however, it is only in the case of JARSS that replies also go via the system (rather than to a personal email address) where they are sorted into mailboxes arranged according to articles (i.e. a reply from a reviewer goes into a mailbox for the article he/she is reviewing). This is important since a large portion of an editor’s work is performed using electronic mail and experience has shown that it is this area that often the most significant disorganization occurs with editorial staff not making use of a support system.

**Interest at Swedish Universities for being the base for Open Access Journals**

Over a similar period as this project was being conducted, Lawrence also participated in a SUHF working group to study the current situation in electronic publishing at Swedish universities. A small part of the latter investigation involved judging the level of interest in Open Access Journals and so these results together with subsequent follow up as a part of this work have proven useful. A result of the SUHF investigation was that there around 15 Open Access journals run through 10 universities. The number of 15 can be taken to be a slight underestimation since there is no central registry of these journals and it turned out that even within some universities, no one knew what locally-produced journals existed.

The 15 journals were analyzed for their scope of operations, continuity, longevity etc. and it can be concluded that most are small journals with a couple of issues per year, occasionally as many as four (with typically five articles per issue). Most of the journals are oriented towards Scandinavian readers with the Scandinavian languages predominating. A small number of the journals was truly international. Virtually all refereed their articles. Continuity and longevity are significant issues. In the middle of 2006 none used an editorial support system. There is a tendency for journals to start up, publish a small number of issues and then stop. This is partly the result of the amount of work involved coupled with poor (non-existent) business models (i.e. there is no money to pay for the time involved) and partly from the retirement of key personnel.

A subsequent follow up with the 15 journals to find out their plans and levels of interest in using an editorial support system and/or a full publication service revealed that a couple of journals had imminent plans to start using Open Journal System (OJS), four were strongly interested in trying JARSS, and five were interested but wanted to consider it further. Interestingly, the interest in a full publication service was not so large. Most Swedish universities have electronic publishing systems capable of publishing articles in a stable and accessible way and creating a journal home page and index pages for individual pages was not considered to be overly difficult. The advantage with keeping journal home pages local to the “home” university was that the web address reflected the actual university that is the base for the journal, which was considered important. The negative side of this is that many of the editorial groups were not particularly aware of strategies for maximizing the visibility of their published articles. The latter is a crucial factor in the current climate of citation counting. In fact, over the last 12 months there has been the beginning of a distinct shift in the attitudes of researchers towards publication. Historically, as an academic, publications have been a measure of productivity and more was equated with better. However, over the last 12 months the shift has begun away from numbers of publications being the key factor in performance evaluation and toward citation frequency. This has significant implications for small journals, particularly the ones that are or are contemplated to be published by individual or small groups of researchers at Swedish universities: for the most they are and will remain too small with too little circulation to make articles published in them to be very highly cited. If this cannot be solved, it is likely that there will be little interest for producing such journals. As an
illustration, one or two issues from each of the active journals discovered by the SUHF survey were studied to determine the citation frequency of the articles. The issues studied were taken from 2005, to allow time for citations to be made. In this very (perhaps overly) simple analysis, tools in Google Scholar were used to obtain the citation frequency (virtually none of these journals was registered with any “real” indexing database which would provide any other measure of citation frequency). 70% of the articles have never been cited. Of the remainder, most were cited once. The maximum number of citations an article has received is 6. Interestingly, KTH’s Theory of Computing journal appears to be used for pre-prints and while the articles published there are not cited often, once they have been published in, e.g., IEEE proceedings, the articles are often cited frequently (up to 79 times, for one example).

Information Spreading

In order to make potentially interested groups aware of JARSS, its possibilities and the opportunity to use it, several forums were used to spread information. Presentations (demonstrations) were given at three conferences:


http://www.hss07.se/pdf/Konferenspapper_vk_lawrence.pdf

http://www.kb.se/openaccess/kursokonf/motesplats_oa_070412_13/david_lawrence070412.pdf

An information sheet (see appendix 2) was also sent to 43 universities and “högskola” in Sweden and personal contacts were made. Furthermore, each of the journals identified by the SUHF working group was contacted individually.

Test/Demo Installations of JARSS

Versions of JARSS have been set up for the following (details have been omitted in the cases of journals under preparation for reasons of confidentiality): Växjö University, ETD 2008, Uppsala, Journal of Ageing and Later Life, Service Design Journal, Luleå Technical University.

From a technical point of view, running multiple versions of JARSS worked very well. Each journal has been given its own installation, completely independent of the others (including email addresses – each installation gets three unique address for use by the system). The separate versions also allows customization to suit individual applications. We have avoided making programming changes that are specific for a given journal (although with appropriate resources, there is nothing stopping such customization from a technical point of view). However, virtually all text can be modified; the workflow can be customized, as can email templates.

We also had interest from three existing journals wishing to switch from a commercial format to Open Access and from those not satisfied with their current publishers. Furthermore we had enquiries from groups interested in having LiU E-Press provide editorial support and
hosting of the journal. It turned out that the policy at LiU E-Press for publishing material with no connection to LiU was unclear and required a decision from the governing board for E-Press and even the Rector of LiU. This has meant that it has not been possible to offer full publishing of journals for which there is no connection on the editorial staff with LiU. Beyond basic university policy other issues concerning hosting “non-LiU” journals have been evaluated. Firstly, concerns were raised over the legal responsibility for this type of activity (i.e. in the case of legal challenges, would LiU E-Press or LiU be responsible for damages resulting from the activity of a journal). Advice from the legal department at LiU indicates that there is nothing to prevent LiU E-Press from hosting journals for which the editorial responsibility does not lie at LiU. A contract would need to be set up which clearly stated the roles of the parties involved, what they are expected to do and what they are not expected to do. It is important to profile this activity as cost-recovery (non-profit) and to have the flexibility to allow journals to leave LiU E-Press if they are unhappy with the service they are receiving. While it is important to be clear about the limitations of what services LiU E-Press provides, making it clear that this activity occurs within a non-profit academic environment and academic community releases the burden of excessive legal responsibility (in essence LiU E-Press is not selling a commercial service to make money but is making available an expertise to those that would like to partake and if it turns out not to be suitable then they are free to stop partaking). A more significant issue is the quality and continuity of a hosted journal. LiU E-Press has a policy of never “unpublishing” any published work and hence if a journal publishes a few issues and subsequently stops, or if the quality is perceived to be low, the journal and articles cannot be removed. There is a strong likelihood that these types of scenarios would reflect badly on a host and so a screening process prior to commencing publication is very important. However, it is also very difficult. Work began on a procedure for evaluating applications to have LiU E-Press host journals. Basic information about the editorial board, editorial staff, journal niche, proposed content, business model, etc. needs to be collected. In addition, evaluations from experts in the field need to be sought (a review process). Reviewers would be asked to comment on the need for such a journal, the competence and reputation of the proposed editorial staff, the quality of the proposed editorial board, the potential volume of material, potential for continuing support, distinctness from other journals in the area, etc. It would also be worth considering creating a small, short-lived group at LiU with one or two researchers from LiU in the field and the vetenskaplig redactor from E-Press as an evaluation committee. Information and recommendations from these sources would form the basis for a decision. Experience has shown that this initial evaluation is absolutely crucial as many researchers begin with great ideas and a lot of enthusiasm but do not realize the amount of work involved in running a journal and do not create a business model which allows continuity.

It has been and is possible to offer JARSS as an editorial tool to external users and a number of the enquiries we received (e.g. Luleå, Uppsala) are progressing under the scenario that they use JARSS for editorial support and publish their articles within their own publishing system (since all universities in Sweden have a publishing system of some sort) and create simple journal home pages and index pages for issues. LiU E-Press has been offering a journal operation advice service in these cases where we give guidance on good editorial practice, increasing visibility, indexing, etc. Initially, the problems at LiU appeared to be significant, however, it has turned out that in many cases, many universities would like to keep the actual publication at home but be able to get advice and access to an editorial support system.
**Future Activities and Recommendations**

LiU E-Press will continue to offer JARSS to any journal interested in using it, on a cost-recovery basis. As a rough guide, a new installation of JARSS (installing it and customizing it, together with a couple of days of training) requires about 5 person-days. Annually, system maintenance, advice-giving *etc.* is anticipated to take 5 person-days. Additionally, the cost of email accounts for the system must be recovered (~2500 SEK/yr). These figures do not allow for system development. JARSS, as it stands, is a stable and functioning system, however it can be anticipated that as more and different journals use the system, modifications would be desirable. To accommodate this, an additional sum (undetermined at this point) would need to be added to the annual cost.

Additionally, LiU E-Press will continue to offer a journal advice service, for those interested in starting a new journal, to provide insights and guidance into starting up and running an international journal. Finally, the possibility of offering a full publishing service for “non-LiU” journals will continue to be pursued through E-Press’ new steering group.

In a more general light, in view of the rapidly growing switch to citation and impact measurements for performance evaluation, a serious look needs to be taken at the role that small journals can play in that environment. Journals can no longer only provide articles and information to a relevant audience: they must also lead to citations. Otherwise, from an author’s point of view, publishing with such a journal will not be advantageous and realistically, not possible.
Appendix 1: Description of JARSS

JARSS: An Overview

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Introduction

To run an Open Access journal (or any other type) takes a lot of work. However, experience has shown that the amount of effort required is often increased through not using or having available tools that would assist with the more mechanical aspects. For the smaller, niche-type journals, it is often individual research groups or professors at a university which are the main actors. Typically, there is an abundance of enthusiasm and a good feeling for the needs of the research community but very little experience with running a journal. In a university environment, there is often a unit, perhaps a part of the library, which offers some form of electronic publishing, however, it is often limited to the technical aspects of making files available on the internet and little in the way of support (document formatting, final proof-reading etc.) is offered. The result is that more onus falls on the professor leading the journal than might for a commercially published journal. The result is that sheets of paper or Excel is used to try and keep track of the submitted articles, the reviewers and the stages that both are at with respect to each and every paper. Similarly, email communication is usually handled through a personal or single email address, with all communication for all articles arriving in the same inbox. Confusion usually prevails with extra effort being required to keep some form of order. What is needed is a tool or service that handles articles, provides a work flow and facilitates communication; in other words a tool is needed that takes care of the mechanics of running a journal, allowing the editorial staff to focus on the academic issues. This is where Linköping University Electronic Press’s (LiU E-Press) JARSS, Journal Article Review Support System, comes in.

LiU E-Press’s Journal Article Review Support System

Linköping University Electronic Press was founded in 1996 to publish Ph.D. and Licentiate theses and undergraduate reports produced at Linköping University (LiU). Very early in its history, LiU E-Press also began publishing electronic journals (e.g. Electronic Transactions on Artificial Intelligence (http://www.ep.liu.se/ej/etai/), Hygiea Internationalis, (http://www.ep.liu.se/ej/hygiea/) and International Journal of Ageing in Later Life (http://www.ep.liu.se/ej/ijal/index.html). Furthermore LiU E-Press publishes article series and conference proceedings, with the volume expanding rapidly since inception. In parallel with this, however, there has been the development of user support services. One of these support services is for those running a scientific journal (and could equally well be used for larger conferences as well), to help keep track of articles as they progress from submission to publication and so JARSS was developed [Sandewall et al., 2006].

Development work on JARSS began in 2002, in order to support the operations of Artificial Intelligence Journal (AIJ). The Editor-in-Chief was LiU E-Press’s Director, Erik Sandewall, who ran AIJ for Elsevier and it has been used since then for AIJ operations. Now that JARSS has been demonstrated to work reliably over a number of years, LiU E-Press is extending the usage of JARSS by offering it as a service to other Open Access journals.

JARSS is internet-based, which means that those involved in the publication process (authors, reviewers, editors and administrators) can all access the system from any computer that is internet-connected. JARSS effectively couples two key features: a completely flexible workflow to follow articles, keeping track of manuscripts (difference versions as they come in), reviewers (their expertise, track record, workload and whether they have completed their reviews) and time schedules (with warnings for late activities); the workflow is then linked with an email communication system which automatically assigns replies from reviewers and authors to the relevant mail box for a given article.

The Editorial Process

A typical, small academic journal comprises an Editor-in-Chief, an administrator and perhaps an assistant or associate editor; these comprise the staff of the journal. Additionally there is usually an editorial board whose
role can be anything from full editorial duties to occasional reviewing (together with guiding the academic direction of the journal). In addition to the journal’s staff, authors and reviewers are also important parts of the publication chain.

The publication process, which is summarized schematically in Fig. 1, begins with an (usually) unsolicited article being sent by an author to the Editor-in-Chief. The latter checks that the article falls within the interest area of the journal and then begins the process of trying to find reviewers for the article. Initially one needs to make a short list of those that have the academic expertise to comment on the article. One must also check when was the last time they were asked to review an article (if ever) and how timely they were with their response. An enquiry must be sent to several reviewers to ascertain if they would be willing to review the article. If there response is positive then they are given a time in which it would be desirable to have the review completed by. This date needs to be marked clearly so that a reminder can be sent, if necessary.

![Fig. 1: Schematic Diagram of a Simplified Workflow for a Small Journal](image)

With time, the reviewers’ comments are received. When one has a number of articles in the system at the same time (typically 10 to 20, for a small journal), then it is important that the reviewers’ comments are associated with the correct article, so that the article and comments can be reviewed together and a decision about publication reached. Typically, the decision can follow one of three options: accept with minor revisions, return to the author for major modifications or reject. For the first alternative, the reviewers’ comments are sent to the author and a modified manuscript is waited for (again, it is important that a date is noted after which a reminder can be sent out, for cases where a response is delayed). The modified manuscript, once received can then be sent directly for formatting and final language checks and then to publishing. For the alternative where major revisions to an article are required, then the author is notified and the process halted until a new manuscript is received. At this point, the article is usually sent out to reviewers again (often the same as in the initial review) and the process effectively repeats itself from that point. Eventually, a manuscript of sufficient quality to publish is received and it follows the work flow for the “minor revisions” case. For articles that are rejected, the author
is notified and often that is the end. However, in some cases, the decision is contested and the Editor-in-Chief must take a closer look at the article and justify the decision taken.

**JARSS in Action**

Because the workflow for a journal can be specific for a particular journal, JARSS allows a great deal of flexibility when it is being set up for a journal. In part, the workflow is defined by the statuses that an article can have from when it is initially submitted to a journal until it is finally published. Continuing the example illustrated in Fig. 1, a typical workflow, or series of statuses for an article would be:

- Pre-received: an article has been sent by an author but not introduced into the journal’s operations;
- Received: an article is judged to fall within the academic area of the journal, be in an appropriate file format, etc. so that it can be sent to reviewers;
- Under Review
- Returned to Author: for modifications;
- Received-2
- Under Review-2: necessary for cases requiring major revisions after the first review;
- Provisionally accepted: for cases of requiring only minor changes;
- Accepted
- Delivered to Publisher
- Published
- Rejected
- Challenged: for cases where the authors do not agree with a “Rejected” decision.

As a simplified overview a paper begins at the top of the list and is moved downwards. At any point the editorial staff can get lists of papers under any of the status headings.

As with the articles, the reviewers and their activities must be easily checked. In a similar way to the articles, reviewers are assigned statuses, from when they are first asked to do a review until they have finally submitted their comments:

- Requested
- Agreed
- Reminded
- Comments Received
- Review Refused.

These statuses are specific to a given article, so if a reviewer happens to be reviewing more than one paper at any given time, their status on each paper is recorded separately and linked to the appropriate manuscript.

To submit a paper, an author registers themselves with JARSS and is emailed a user name and password, which allows them to see the status of their article as it moves through the process. Logging into JARSS allows an author to upload their article to the system, at which time it shows up as “Pre-received” for the journal’s staff. The Editor-in-Chief should check the “Pre-received” articles on a daily basis and go to the system’s database for reviewers to find appropriate people to review the article. Each reviewer’s “file” has information about when they last reviewed an article, how many they have reviewed in total and has room for comments about their timeliness etc. Using standard emails, a request can be sent to a reviewer asking them whether they would be willing to review the article. A (potential) reviewer can also register with JARSS and hence login to the system from where they can download the article. A reply from a reviewer is automatically sorted by JARSS into a mailbox specially allocated to an article. In this way a complete record of correspondence about an article is kept together with the article. As the request to the reviewer is sent, the status of the reviewer is automatically updated to “Requested”. Once a reply has been received, and assuming it is positive, an acknowledgement triggers a change in status of both the paper, “Under Review”, and the reviewer “Agreed”. At the same time the review period is set to an appropriate length of time (for example 30 days) and if this time expires without hearing from the reviewer, the system reminds the journal staff and a reminder can be sent to the reviewer (and again this is recorded as a change in status of the reviewer).

Eventually, the reviews are received (the system is again used to send pre-formatted “thank yous”) and the journal staff is required to make a decision. The authors are notified and relevant changes to the manuscript requested. The article’s status is changed to “Returned for modifications” or perhaps “Provisionally accepted”, depending on the extent of the changes required. In this manner, an article continues to move through the
publishing process until it is finally ready to be sent to the publisher (which can be done in-house or by an external publisher).

Experience with the operation of JARSS for AIJ has shown that one of its greatest strengths is the close coupling between the workflow and the email communication system. A communication with a reviewer or author often indicates a progression of an article and correspondingly triggers a change in status of the article, automatically. With the database of articles and communication stored centrally, all users (editorial staff) can see exactly at what stage any and all articles are at and can also easily see where there attention needs to be focused. JARSS also has an extensive internal communication (or perhaps commenting) system, which allows notes to be sent back and forth between editors and administrators, coupled with a relevant article. In this way editors working time zones apart can quickly assess the changing priorities and effectively determine what needs do at what point.

JARSS has proven itself to be a great success and a tool which makes the editorial work of journal production much more efficient, making it feasible for a professor at a university to start and operate a academic journal and not have it consume all of her/his working time. If anyone is interested in operating a journal and making use of JARSS, please feel free to contact LiU E-Press (www.ep.liu.se; davla@ep.liu.se).

Acknowledgements

Recently, support has been obtained from the Swedish Royal Library, under their Open Access programme, to make JARSS available for use by other open access journals in Sweden.

Reference

Appendix 2: JARSS Information Sheet

LiU Electronic Press nya tjänst för publicering av tidskrifter

Publicering i en akademisk tidskrift ger en forskargrupp ökad synlighet och erkännande. Det är också möjligt med elektronisk publicering att publicera ämneminarbete tidskrifter, poster-tidskrifter, avancerad mediaartiklar (länkar till video, ljud, simulation av data) etc.


Tjänster som erbjuds genom Journal Publication Service

1. Råd och stöd i praktiska frågor vid grundandet och driften av en ny tidskrift.

2. Använda mjukvaruprogrammet JARSS för administrering av den redaktionella processen med bl.a. mottagning av artiklar, kommunikation med författare och granskare, databasunderhåll av personer (författare och granskare) med erfarenhet i att publicera en tidskrift. Varje tidskrift får sin egen speciellt anpassade version i systemet.

3. Personlig redaktionell stöd för slutredigeringen av accepterade artiklar och formatering enligt tidskriftens grafiska utforming. Denna service utföres för närvarande manuellt av erfaren personal vid LiU E-Press.

4. Publicering av tidskrifter och enskilda artiklar på LiU E-Press. Varje tidskrift erhåller sin egen grundstrukturen på LiU E-Press. Tidskriftens redaktörer har stor frihet i konfigurationen av denna struktur till sina egna behov t.ex. presentation av information om organisationen som publicerar tidskriften. Vi kommer inom kort att starta tjänsten Print-on-Demand som ger läsaren möjlighet att erhålla papperskopior av en publikation.

5. Enskilda artiklar och/eller hela numret av tidskriften kan också publiceras i publiceringssystemet DIVA.


För mer information om sina tidsskriftsideor kontakta vår vetenskapliga redaktör
Daniel Lawrence, dav@ep.liu.se eller 013-288639.