Multi-level eJournal support structures in the initiative "Digital Peer Publishing NRW"

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Progressive scientific differentiation and an ever increasing vision of how to exploit the potential of the digital world cause scientific communities to initiate novel and alter their existing publication efforts. Yet, traditional peer reviewing and high quality presentation formats are still desired means for becoming distinguished and being recognized as a journal, its advancement or its offspring. In practice, setting up and operating such eJournals can – and maybe must – benefit from support structures that go beyond simply offering content platforms. Within the open access initiative "Digital Peer Publishing" (DIPP) the academic library centre HBZ-NRW offers technical, organizational and legal solutions.

The open access initiative "Digital Peer Publishing" (DIPP[1]) started in spring 2004 as an organization of "scholar-to-scholar" eJournal start-ups and pick-ups that are based in the German state North Rhine Westphalia (NRW). Eight new and existing eJournals belong to the initial group of funded stimulation projects[2]. More partners subsequently become affiliated with the initiative. DIPP works practical: the technical infrastructure that hosts the eJournals was launched after half a year in December 2004.

The initiative has no disciplinary focus since the highly heterogeneous demands of the different scientific communities and editorial groups shall reveal in how far developed and sustained support structures can be generalized and transferred for future demands of scientific publication. In order to foster generic technical development and ease effective knowledge transfer between individual eJournals, the academic library centre HBZ[3] adopts the role of an aiding and integrating companion in the initiative. The DIPP services are set out to relieve and help editorial groups with respect to several aspects, e.g. to find applicable technical, organizational and legal solutions.

On the technical side, a comprehensive publication and workflow system is offered (see Fig. 1). Submissions can be processed through the web based reviewing system GAP-Works[4]. If accepted and pre-formatted by the editorial groups, contributions are automatically loaded, converted and stored in the repository via OAI protocols, which, in turn, triggers further information services (URN, OAI Harvesting preparation, indexing etc.). Contributions can be prepared for final publication by editorial groups through a web interface and content-management system. The open source based system is up and running, but continuously optimized and further developed to fulfil the needs of the journals and offer advanced features such as modularized media and metadata handling, enhanced multi-media management etc.

Table 1: Technical Components.

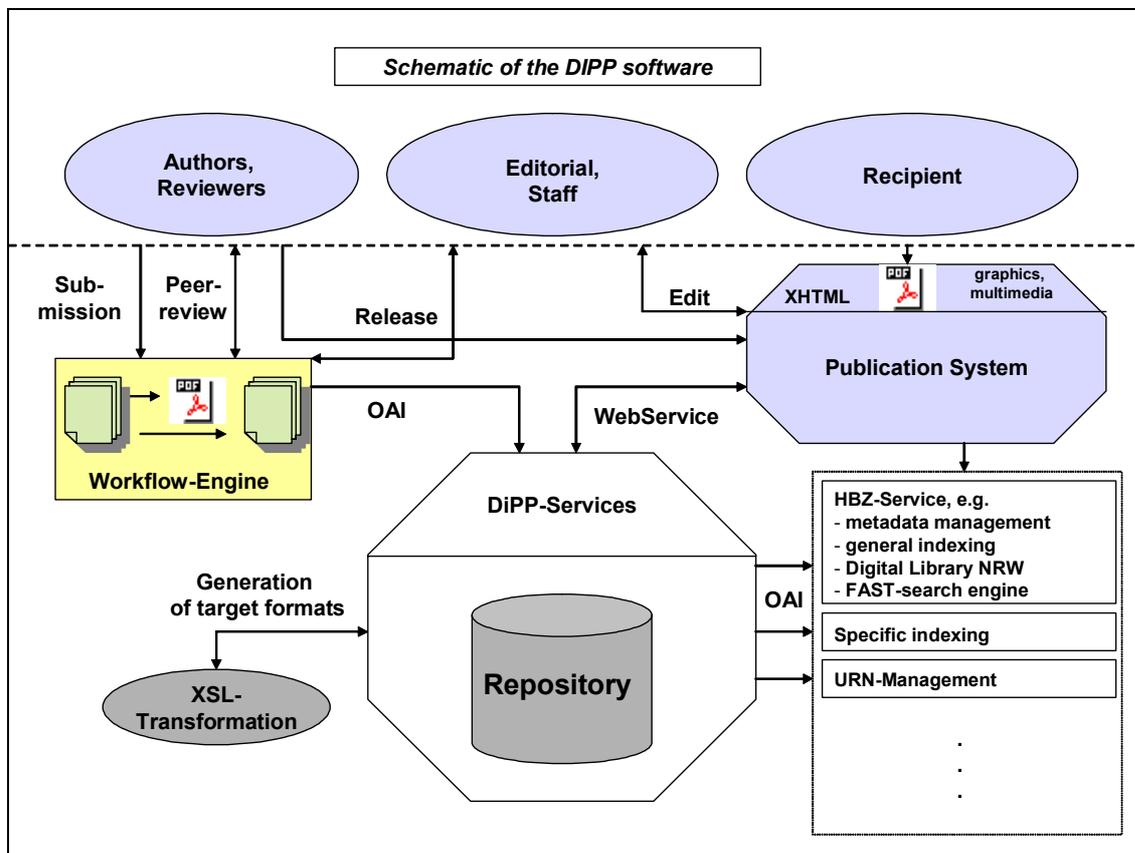| Function	Name	URL
repository	Fedora	http://www.fedora.info
web application server	Zope	http://www.zope.org/
content management system	Plone	http://plone.org/
web-server	Apache	http://www.apache.org/
security	OpenSSL	http://www.openssl.org/
workflow engine	CMFOpenflow	http://www.reflab.it/
authentication	OpenLDAP	http://www.openldap.org/
protocols	OAI	http://www.openarchives.org

Fig. 1: Schematic of the electronic publishing system for eJournals developed and maintained by the academic library centre HBZ in Cologne. Articles are processed in four principal steps (from upper left to upper right) with mostly automated transitions. (1) After submission by the author, documents are reviewed in form and content. A web-based workflow manager is offered. (2) In case the submission is accepted, articles are prepared for conversion to XML, which is the central format and also the basis for HTML and PDF. (3) Publications and metadata are transferred to a secure database (repository). (4) A concluding formal revision and presentation can be performed in the publication system, which also offers functions for letters, news, announcements etc. For supporting search and retrieval on the internet and in academic databases, each publication receives persistent internet addresses (URN) and offers interfaces such as OAI and RSS for external services.

On the organizational side, the DiPP network, as a decentralized but moderated structure, mediates between the demands of the eJournals. Editorial groups are independent and control their operations themselves. They are anchored at the university of the leading researcher in the (mostly international) editorial group and involve partners of the local library who adopt various roles ranging from metadata checks over indexing to formatting. Finding, testing and establishing novel practice scenarios and divisions of work involving libraries is one of the goals of the DIPP initiative. Where possible, present expertise and gathered experiences within editorial groups and library services are shared in workshops, forums and presentations within the DIPP network. Participating eJournals receive access to a Wiki containing information on indexing, hints on editorial techniques, legal considerations (see below) and technical issues. The operation and business models are to be organized by the journals and universities themselves, even though the HBZ offers advice as well as sustained technical infrastructure and support. The collaboration between the eJournal and the HBZ may take different forms, depending on the services chosen. Even though the services should be composed individually for each eJournal, three 'service-levels' shall be described as examples.

1. "Self-Service": eJournals organize the use of the publication system themselves, but receive basic layouts, technical hosting, technical support and automatic services such as URNs, OAI and basic indexing.
2. "Tender": In extension to the self-service, eJournals receive for example customized layouts, maintenance of the publication system or manual indexing services.
3. "Operator": In addition, eJournals receive for example text-formatting, end-user support, active indexing and distribution or value added services.

On the legal side, a modular set of open access content licenses ("Digital Peer Publishing Licenses", DPPL[5]) is provided that allows for flexible application in different demand profiles:

a. DPPL: The basic version allows free use and distribution of the unchanged publications on condition that correct citations are provided.
b. m-DPPL: The 'modular' DPPL allows to produce changed versions of specific parts of the publication that are indicated by the author and provides prescriptions of correct citations.
c. f-DPPL: The 'free' DPPL allows to produce changed versions of any part of the publication without any restrictions. Of course, correct citation is still mandatory.

In any version, the author keeps all rights for his work, unless he or she transfers them to the eJournal. Re-licensing and commercial use are not excluded with the application of DPPL licenses. The licenses were developed by the specialists of the IFROSS[6] and are customized for academic use and national law, but internationally applicable.

DIPP takes a practical approach to analyse how to implement goals defined in Open Access declarations in ongoing and innovating scientific activities. The focus on eJournals and its implication of complex publication processes sets a high benchmark and stimulates rich experience and ambitioned technical development. Lessons learnt and developments made

are therefore also likely to be applicable in neighboured fields such as institutional repositories and education.

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[1] http://www.dipp.nrw.de.

[2] *Funded by the Ministry of Science MWF-NRW:*
Brains, Minds & Media http://www.brains-minds-media.org,
Constructions http://www.constructions-online.de,
E-Learning and Education http://eleed.campussource.de,
German Risk and Insurance Review http://www.risk-insurance.de,
Journal of Virtual Reality and Broadcasting http://www.jvrb.org,
Language@Internet http://www.languageatinternet.de,
Rapid Technology http://www.rtejournal.de,
Zeitenblicke http://www.zeitenblicke.de.
recently affiliated eJournals:
Afrikanistik Online http://www.afrikanistikonline.de/
Social Works and Society http://www.socwork.net

[3] „Hochschulbibliothekszentrum des Landes Nordrhein-Westfalen" is an institution providing and developing services such as the digital library www.digibib.net or www.vascoda.de for over 100 academic libraries.

[4] A development of the Institute of Science Networking in Oldenburg, Germany: http://www.gapworks.de

[5] The DPPL licenses are compatible with German law but internationally applicable, see e.g.
http://www.dipp.nrw.de/service/DPPL_v2_en_06-2004.pdf

[6] Institute for legal issues of free and open source software: "Institut für Rechtsfragen der Freien und Open Source Software"

Internet addresses last accessed 05/04/05.