RSS feeds and Mashups as supporting tools for the scientific information retrieval in academic libraries.

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AIM

RSS feeds are well established instruments, supporting both individual researchers and academic libraries. RSS feeds represent the fastest way for information/content providers to deliver access to the newest information and spread (push) such information. The researches in turn get access to the newest information subscribing to RSS feeds of chosen sites instead of surfing through the sites themselves. Thus RSS feeds may be considered the most efficient and time saving methodology to follow the latest information on chosen sites and staying informed of the latest developments in the specific research area (different projects, sites of publishes, blogs etc). RSS feeds of journal contents as a rule provide shortest ways to full texts of the articles.

The goal of the present paper is to analyse the implementation of server based technologies in aggregating feeds in the academic library as supporting tools for scientific information retrieval and to present our experience in developing some of such environments with the help of modern technologies including mashups.

METHODS

These server based technologies are used in the Library of the Veterinary University (TiHo) in Hanover to aggregate new continually coming information from RSS feeds
- of topical search-results in Online Contents,
- of topical search-results in WorldCat,
- of OVID-Blogs,
- new acquisitions in TiHo - OPAC (GBV),
- Tables of Contents of Journals (TOC),
which are discussed further down.

Two approaches have established themselves for collecting relevant RSS feeds. They are either standalone feed readers as desktop tools or Web-based feed aggregators (Fig. 1) such as Netvibes (1). Both approaches represent the prevailing solutions used by individual researches collecting the set of site to follow.

Fig. 1. Web-based aggregator Netvibes.

RSS feed mashups are by far not the most popular kind of mashups in comparison to mapping mashups. In the database of ProgrammableWeb (State of 4. April 2010) of 4730 mashups listed 35% represented mapping mashups (Fig.2) while the tag for "feeds" revealed 10 mashups and for "RSS" - 100 entries (2).
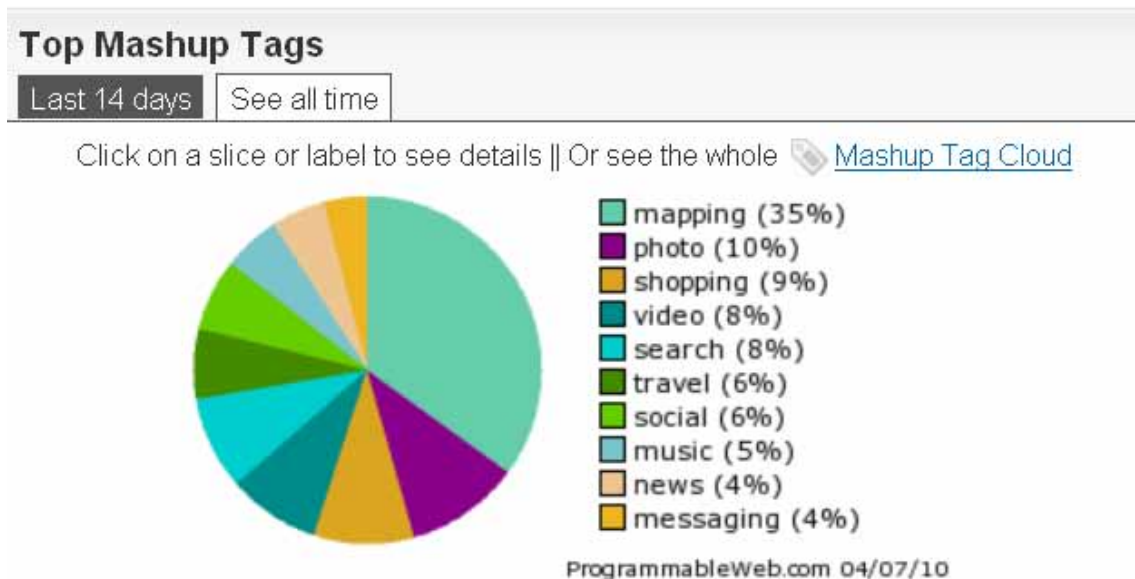
Fig. 2. Prevailing in the database of ProgrammableWeb are mapping mashups.

In spite of these rather modest numbers the RSS feeds are the most important means of retrieving the most actual information for the scientists, and delivering such information is one of the main goals of the scientific library. Here follow some examples to illustrate these new modalities in the research.

RESULTS

Online Contents (service of GBV).

RSS feeds to further follow up the search results in keyword-predefined area in Online Contents are implemented through the service of the GBV, the Union Catalogue of seven German States. While performing a topical search in the Online Contents through chosen keywords it is possible for registered users to subscribe to the RSS feed and get informed of the later acquisitions in the topic of interest (fig 3).
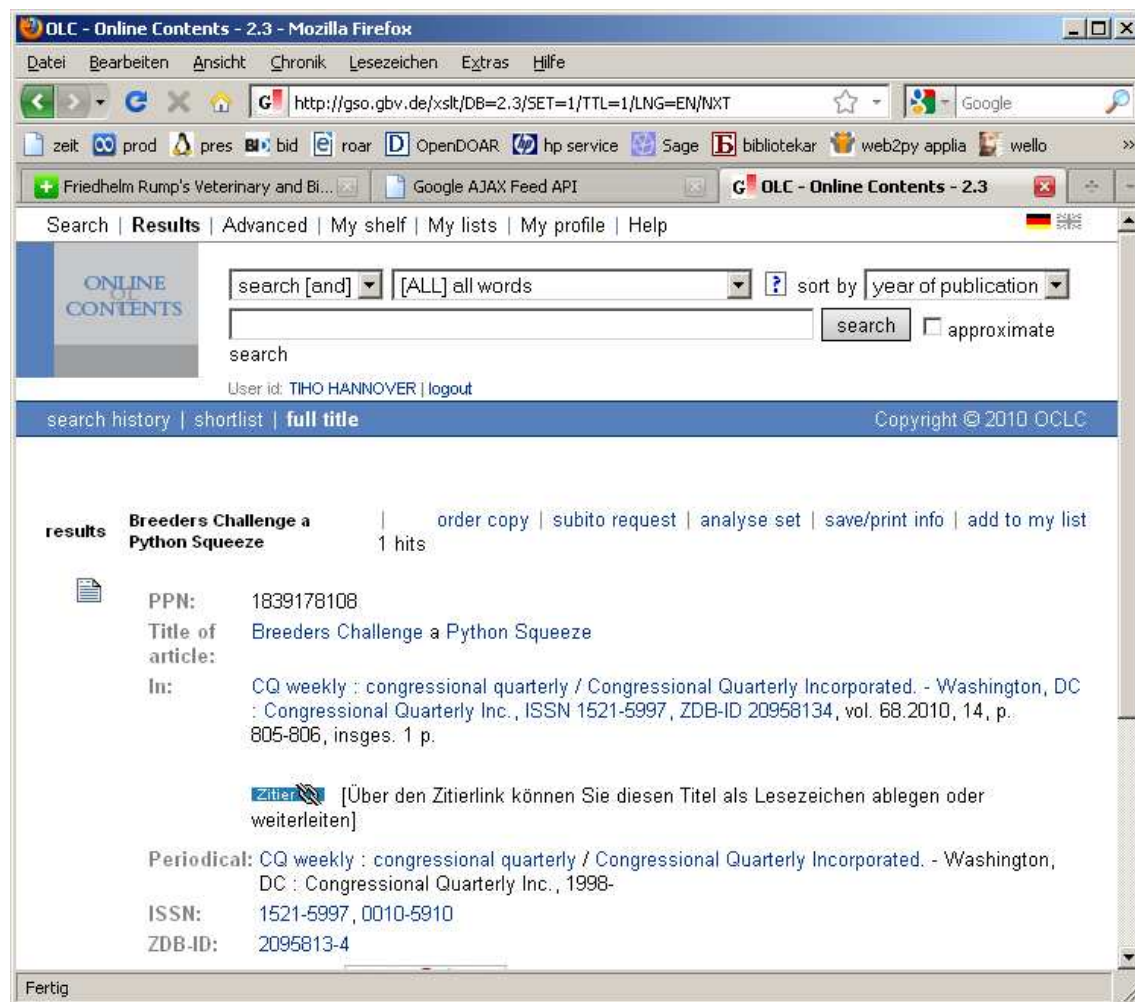
Fig. 3. Topical RSS-subscription in Online Contents (service von GBV).

RSS feed of WorldCat.

RSS feed of WorldCat makes it possible also the get later acquisitions in the WorldCat database to the chosen topic linked to the hosting library. The concise description of the procedure follows (fig. 4 – 6).
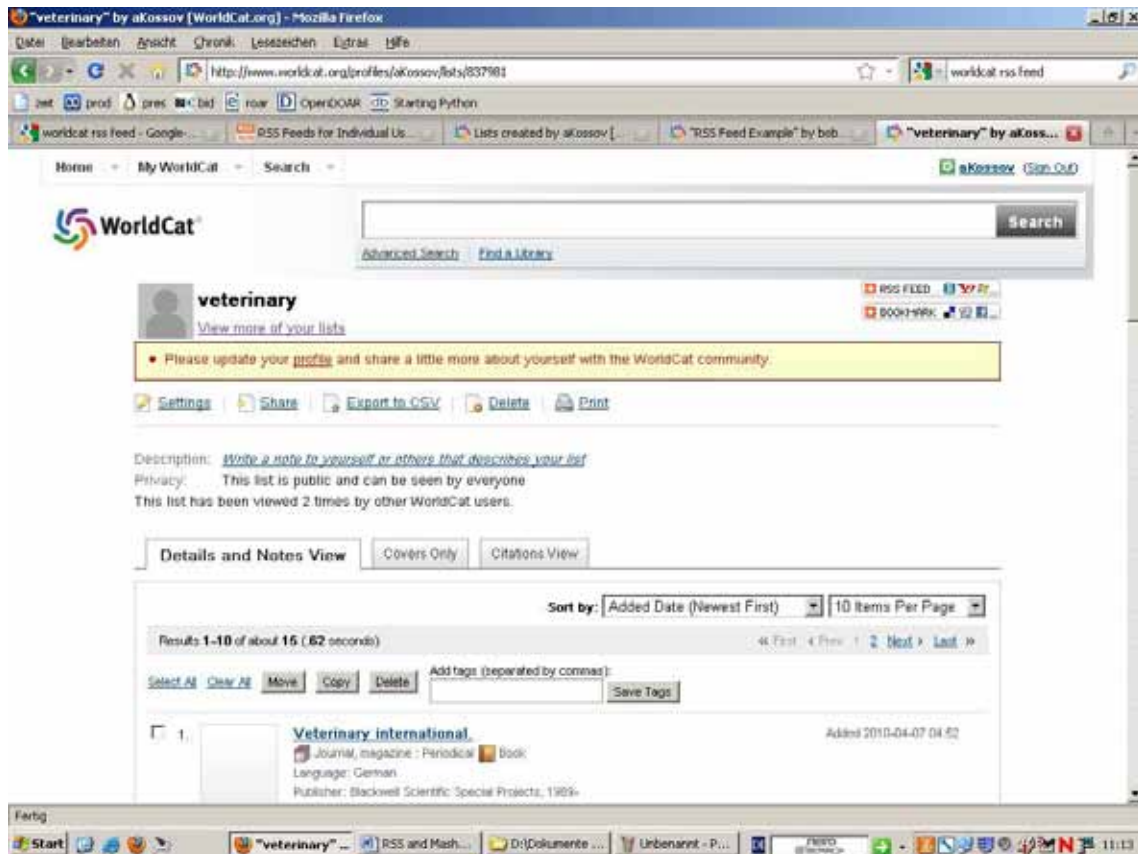
Fig. 4. The list "veterinary" is generated and the "RSS FEED" Button is to be seen.
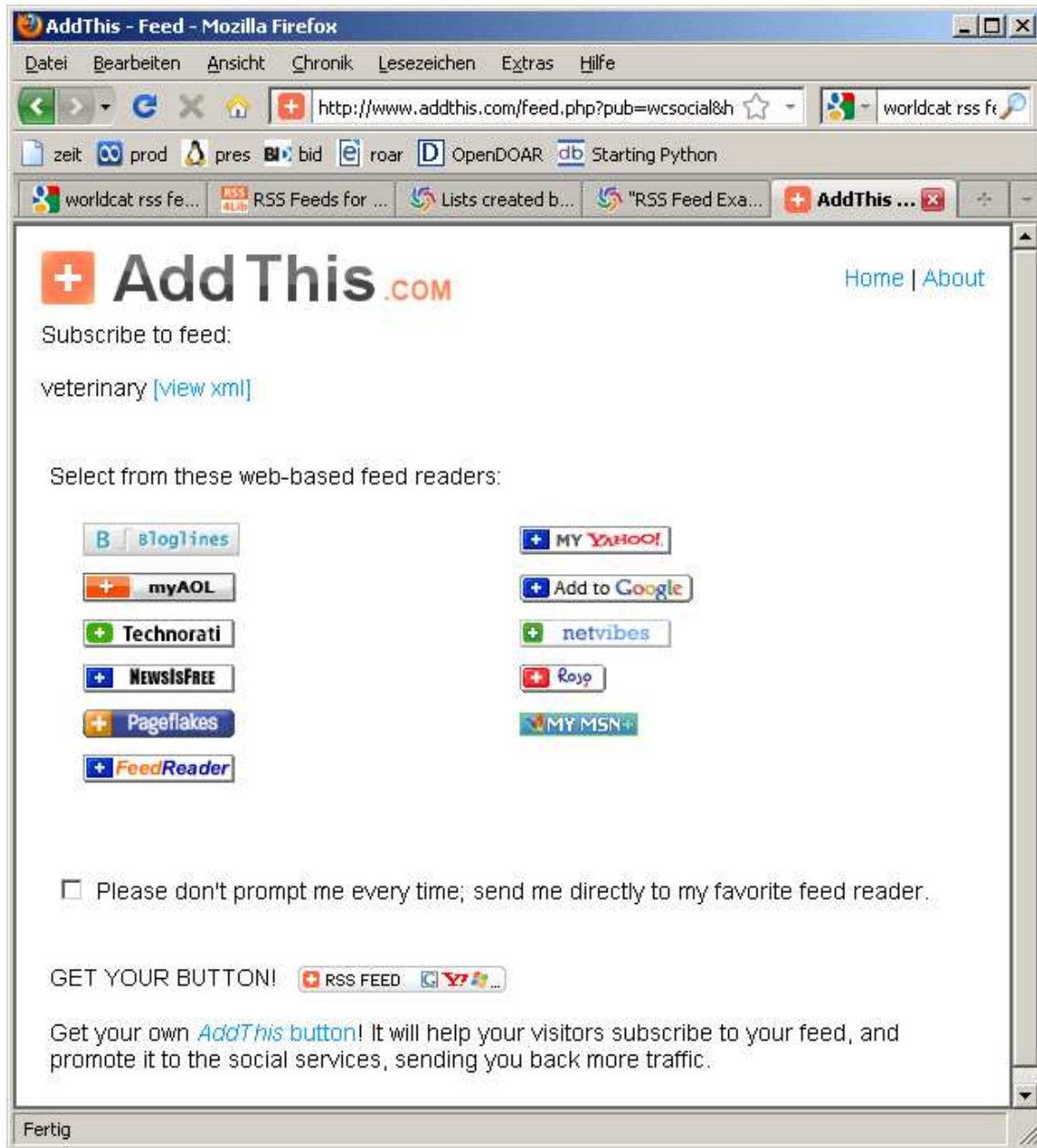
Fig. 5. After the button is pressed, one should choose "view XML".
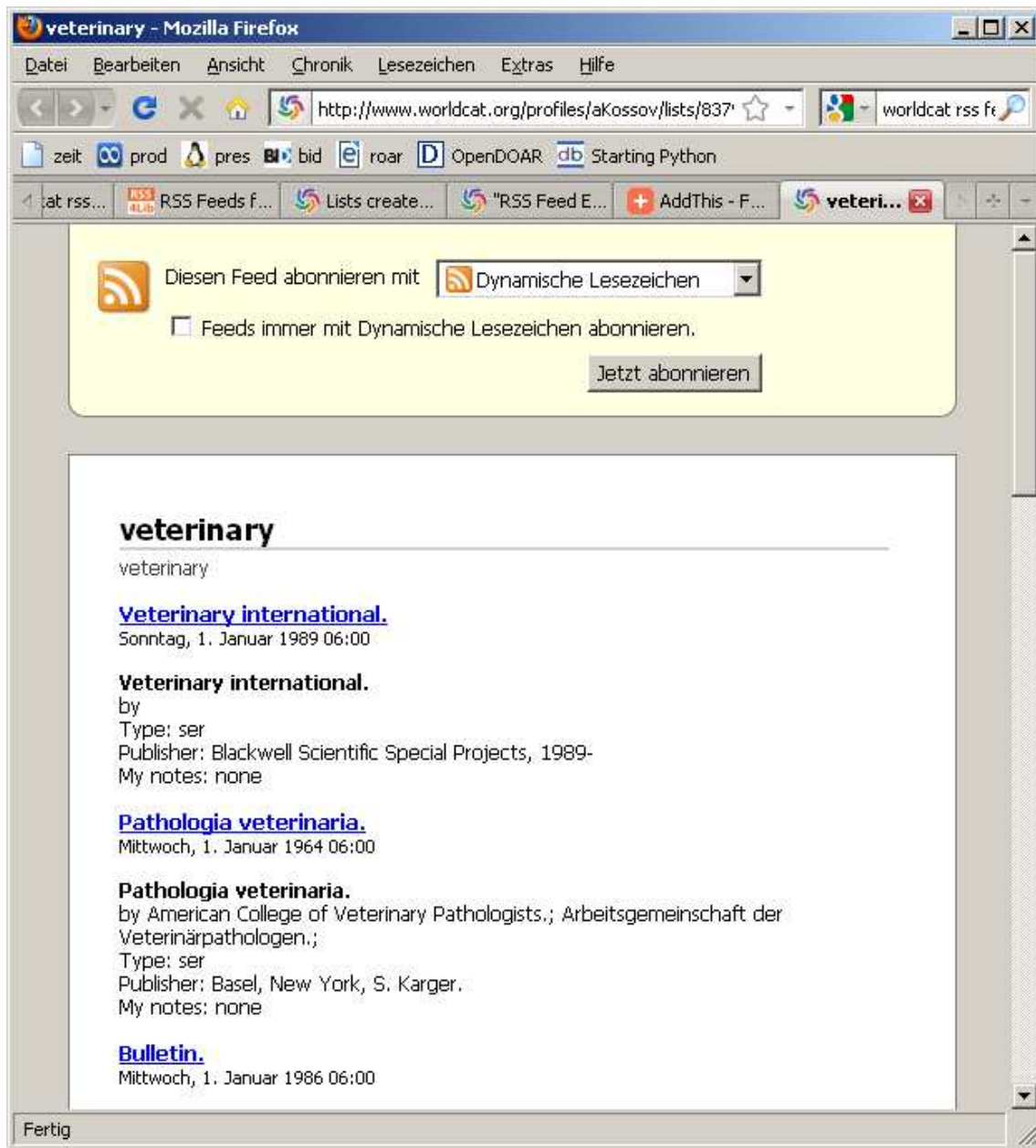
Fig. 6. Now it is possible to subscribe to the feed.

This WorldCat service is available to all users of WorldCat, but in the free version the feed is lacking information, substantial for librarians e.g. ISBN numbers. The feed can be further included in the aggregator we describe.

OVID Blogs RSS feed.

OVID Blogs RSS feed is an example of the comfort and efficiency to follow the blog entries as an RSS feed (Fig.7).
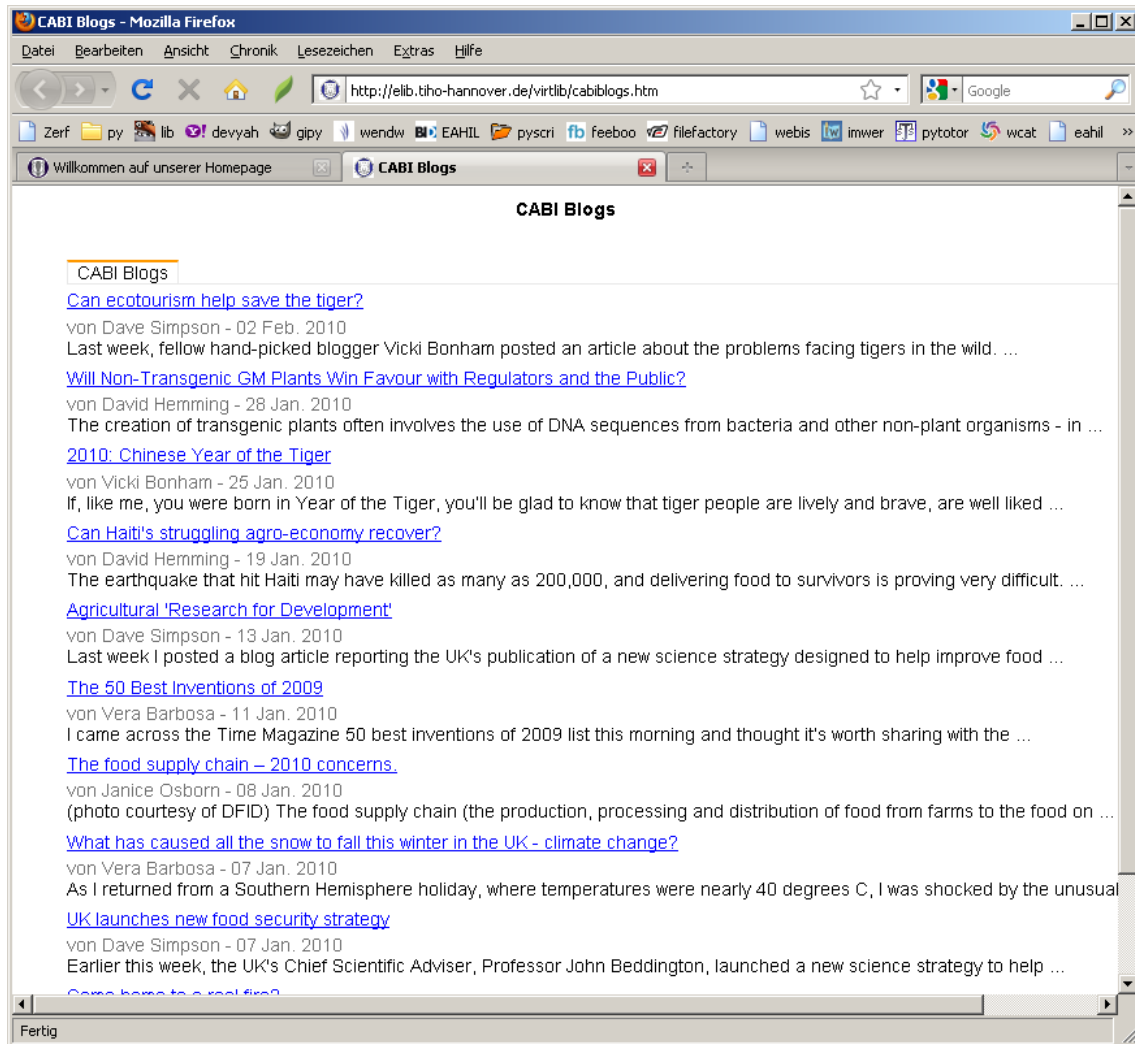
Fig. 7. CABI Blogs as RSS feed.
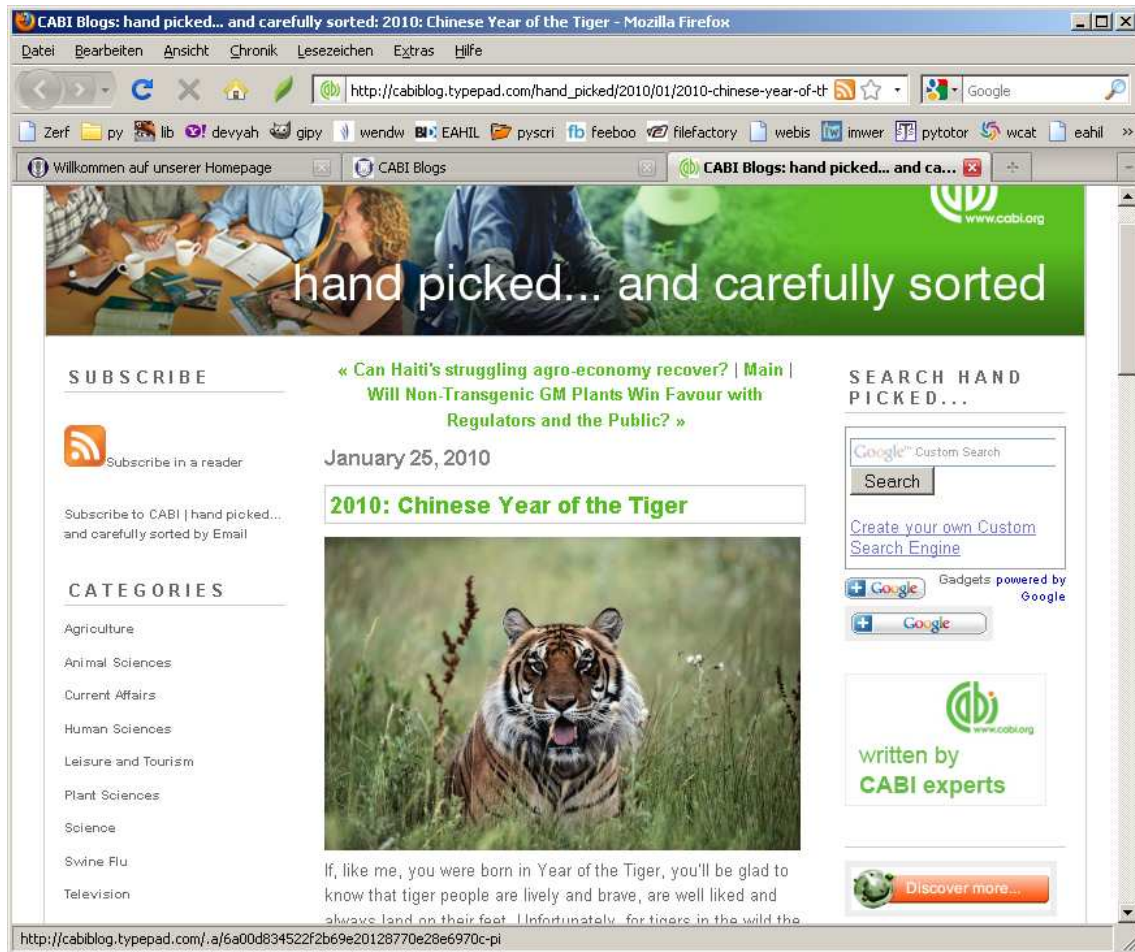
Fig. 8. Link from RSS feed to full text.

New acquisitions in TiHo - OPAC (GBV).

A server-based RSS feed delivering a list of the library's new acquisitions was developed.
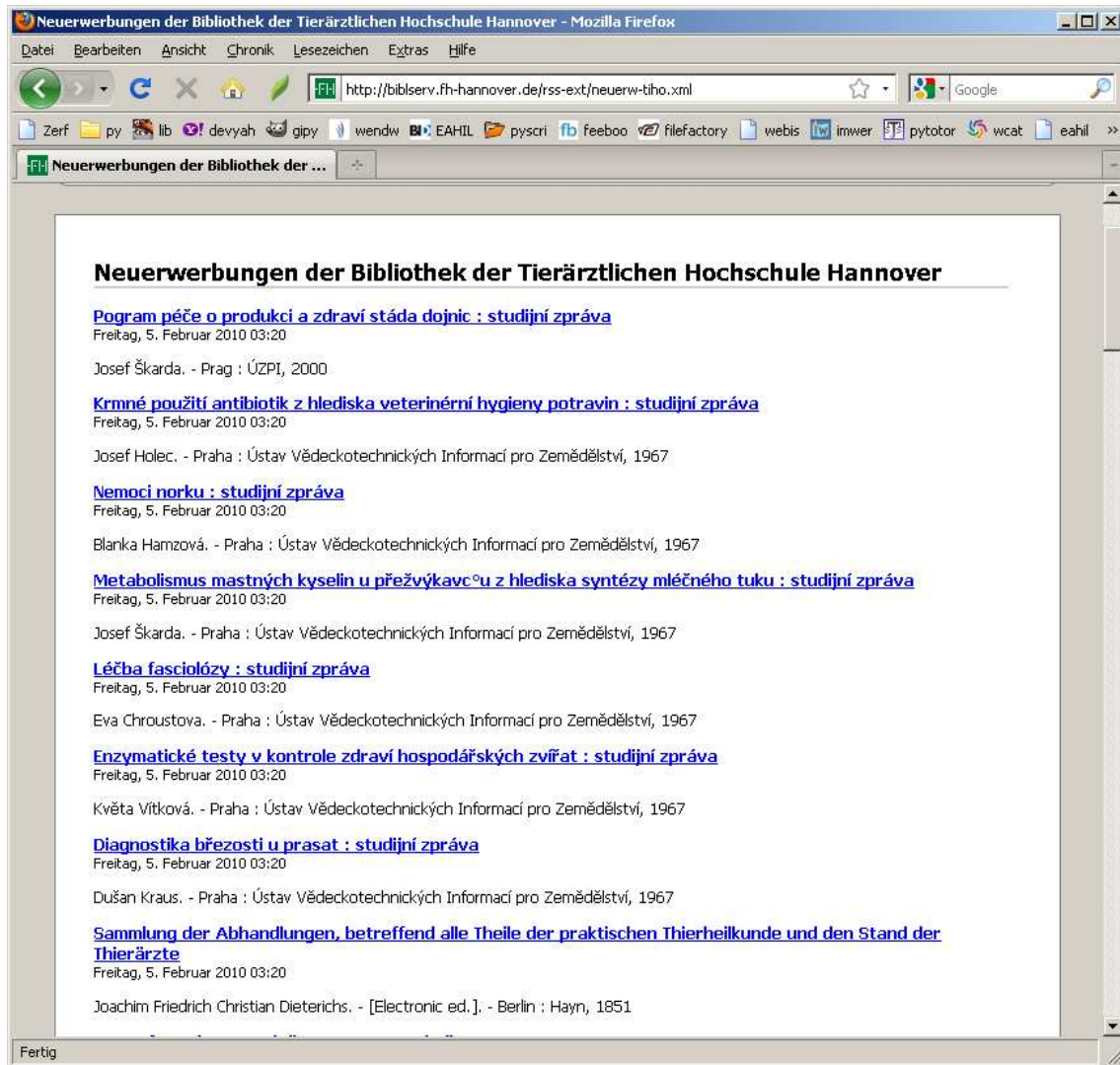
Fig. 9. New acquisitions in OPAC.

The links lead directly to the catalogue items of the library OPAC.
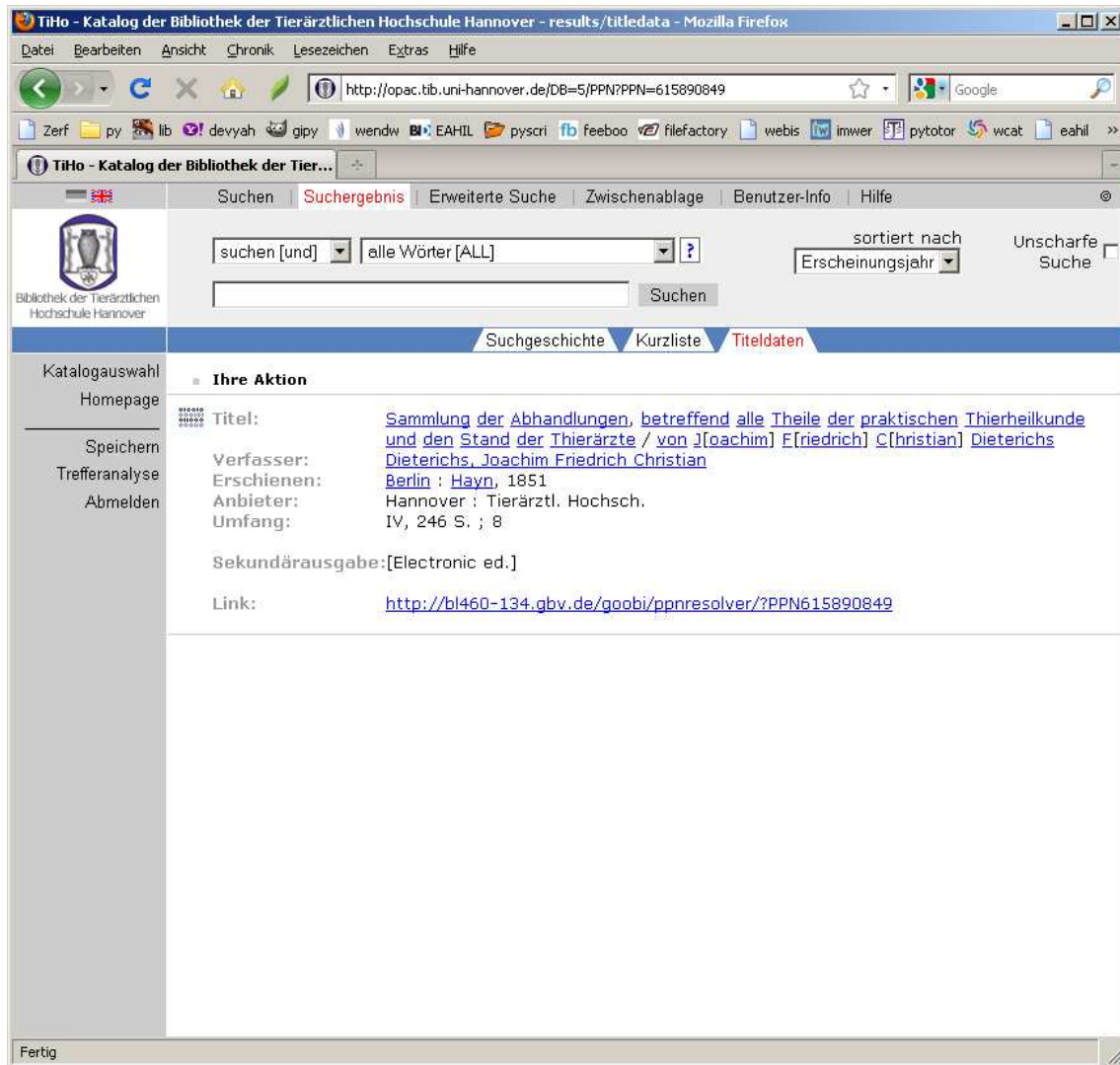
Fig. 10. Direct link from RSS feed to OPAC.

RSS Mashup technology.

It seemed to us to be a natural approach to implement the RSS Mashup technology in aggregating feeds to build a server based tool. Such mashups can aggregate different feeds on a broad spectrum of subjects. We provided access to journals' tables of contents.

A mashup combines the information from several independent sites, while one site as a rule provides a corresponding API (Application Programming Interface) to make the mashup functional. As a result the user gets access to additional information and is provided with additional comfort in reaching this information.

Mashups may be individually programmed or built with the help of Mashup editors. Such editors are provided by Google, Microsoft as "Popfly" and Yahoo as Yahoo Pipes. One of the most comfortable is probably the Intel Mashmaker.

We used the Google AJAX Feed API http://code.google.com/apis/ajaxfeeds/ which permits a rapid development of Feed Mashups combining the API and JavaScript approaches (3). The

aggregation was realised in tabbed layout. The feeds were organized alphabetically. It is also possible to display the feeds according to other criteria, for example research topics.

The steps necessary to create the RSS feeds mashup of TOC are shown by the example.

First one should register at Google AJAX Feed API to get a key. After that the key is generated and included in the mashup JavaScript source.

The code itself consists of several elements. The first is the call of the feed API.

google.load – function calls the version 1 of feed API.

google.load("feeds", "1");

function OnLoad() {

var feedControl = new google.feeds.FeedControl();

Then a list of chosen feeds follows. Here in parentheses first comes the feed-URL and then the abbreviation which is chosen to appear in the feed mashup e.g.

feedControl.addFeed("http://.../current.xml", "Cancer");

The class google.feeds.FeedControl makes it possible to visualise the collection of feeds.

When the FeedControl class is built, the feeds (in the current example – 1) are added to the code.

The following code segments control the appearance of the aggregated mashup:

feedControl.setLinkTarget(google.feeds.LINK_TARGET_BLANK);
feedControl.setNumEntries(20);
feedControl.draw(document.getElementById("feedControl"),
{drawMode : google.feeds.FeedControl.DRAW_MODE_TABBED});

In particular *feedControl.setNumEntries()* controls the number of entries seen etc. Probably 20 entries in a feed is a reasonable compromise between the frequencies with which the new entries in a certain feed appear.

The longer the list of entries, the longer is the page. As an advantage the possibility to see more entries simultaneously at the mashup page can be named. On the reverse side when the entries are updated not so often in comparison with the calls of the page by the user, many entries are recognised as old ones.

When the mashup is completed, it is uploaded onto the server.

Alphabetical list of clickable links
of directly accessible journal feeds.

This list does not allow for keyword searching across the journals.
If you want to perform such searches, subscribe to the relevant RSS-feeds
(for example from this list which also contains not directly accessible
journal feeds) and choose a freed reader which offers this function.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Acad. Emerg. Medicine   Academic Medicine   ACSMs Health & Fitness J.   Acta Haematologica   Accounts of Chemical Res
Veterinaria Scandinavica   Addictive Disorders & Their Treatment   Advances in Anatomic Pathology   Adv. Neonatal Care   A
Biology   Alzheimer Disease and Associated Disorders   Am. Cancer J.   Am. J. Clinical Oncology   Am. J. Dermatopathology
Medicine & Rehabilitation   Am. J. Medical Sciences   Am. J. Therapeutics   Analyst   Analyt. Chem. - Research Articles   Ane
and Features   Ann. Clin. Microbiol. Antimicrobials   Ann. Gen. Hospital Psychiatry   Ann. Nutrition and Metabolism   Ann. Rht
Biochemistry   Ann. Review Biomedical Engineering   Ann. Review Biophysics   Annual Review Cell and Developmental Biolog
Evolution, and Systematics   Annual Review Entomology   Annual Review Genetics   Annual Review Genomics and Human Ge
Medicine   Annual Review Microbiology   Annual Review Neuroscience   Annual Review Nutrition   Annual Review Pathology:
Toxicology   Annual Review Physiology   Annual Review Psychology   Annual Review Public Health   Anti-Cancer Drugs   Art
Issue   Arteriosclerosis, Thrombosis, and Vascular Biology First   Arthritis Research & Therapy   ASA Refresher Courses in Ar
Zealand Health Policy

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Glypican-3: A Novel Diagnostic Marker for Hepatocellular Carcinoma and More.

Fig. 11. Alphabetical list RSS feeds of TOC.

The links in the feed mashups lead directly to the articles of the journals. The availability of full texts is defined by the licence conditions.
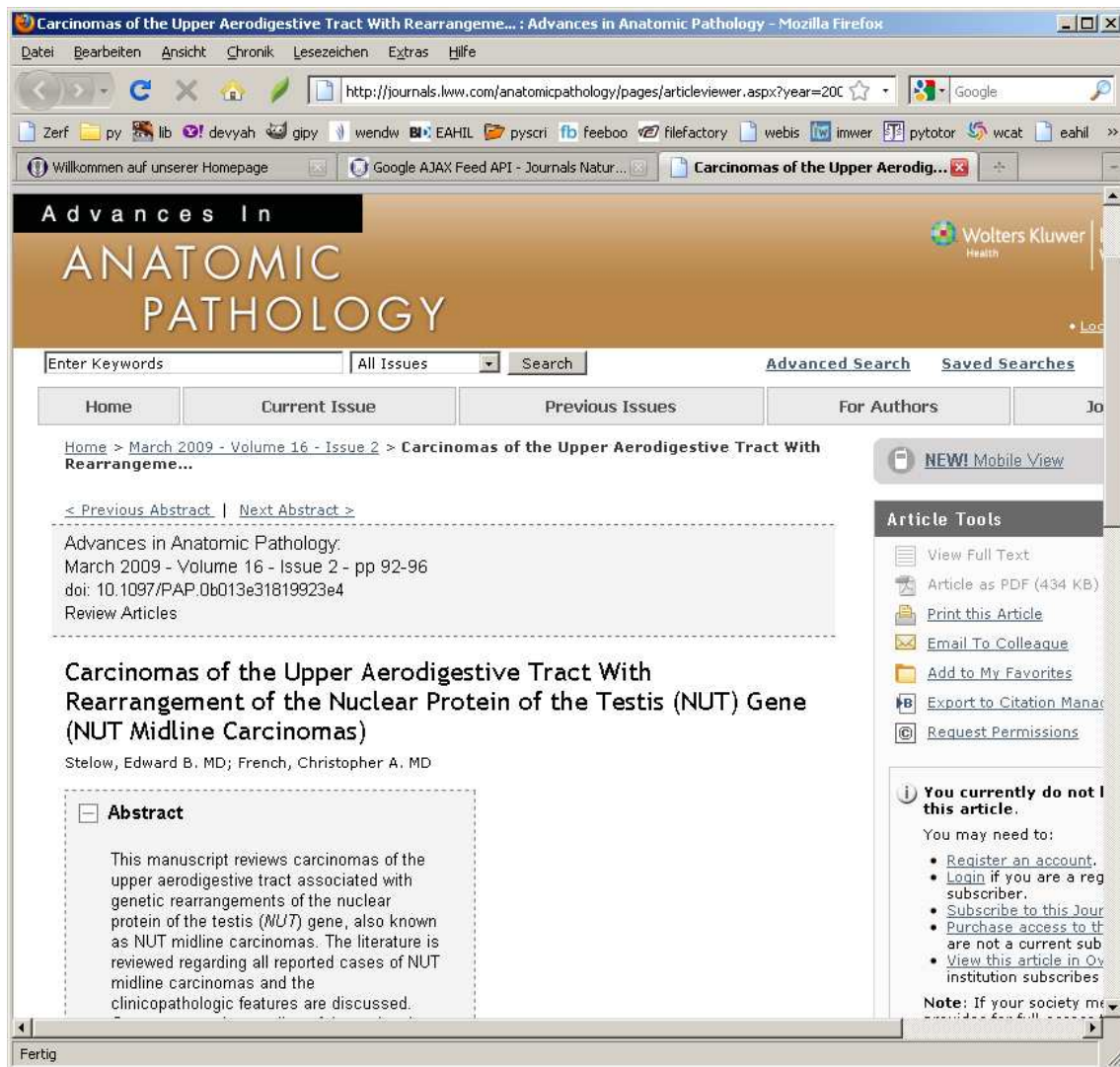
Fig. 12. Link from RSS feed to article.

Our RSS TOC mashup is focused on specific journals, thematically relevant to the research areas of the Veterinary University. A broader spectrum of TOC can be found in the database of TicTocs.

DISCUSSION

Server side tools in combination with the mashup approach permit to aggregate RSS feeds in a comfortable environment, which can be appropriately designed and used by researchers with little knowledge in informatics. They are a valuable instrument in information retrieval and the update of such information. Especially noteworthy is the multifold application of such tools, delivering effective access to information on online contents, links to full texts of printed articles or preprints and follow up of search results of specified topics.

Still there is a problem limiting the deployment of server side feed mashups. Some content providers forbid the usage of contents on another site or in a different layout and are

consequently excluded from aggregation. On the other hand, it must be clearly stated that RSS feeds are not the contents itself, but only the means to promote such contents and layout of aggregated feeds is inevitably different depending on representation in different browsers or feed readers or using different APIs. The possibility to use RSS feeds in different aggregators and server side tools should be clearly stated in the terms of usage by the content providers. Otherwise such providers exclude themselves from the most efficient pushing of their contents.

CONCLUSIONS

Server based technologies in aggregating feeds in the academic library are important and efficient supporting tools for scientific information retrieval. RSS feeds and mashups provide means to rapidly access newest information.

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