



Web-based solutions for enviroGRIDS publication database

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Abstract:

This document describes the available solutions for implementing a database of the enviroGRIDS publications. Six options are presented and one solution is suggested to be taken further into consideration.



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1 Introduction

1.1 Objective of this deliverable

EnviroGRIDS aims at producing a database on the publications produced during the project. The database will be web-based accessible from the main enviroGRIDS site.

The aim is to provide users with an easily usable and searchable database on enviroGRIDS publications, which includes descriptions or abstracts of each publication and details of how it can be obtained.

The objective of this deliverable is to investigate what are the available systems, able to provide a website in which it is possible to search for publications by topic, author(s), keyword, or country, for enviroGRIDS publications.

The concept of the publications database, presented herein, will be integrated in the envirogrids web site, which is currently under revision.

1.2 Document structure

This document is structured in five sections. The present section is an introduction and presents the objective of the deliverable. Section two of the document describes the functional requirements needed in order to have access to the database of publications of the enviroGRIDS project. In the third section of the document a summary of available solutions for implementing a publication database, is done, continued with an evaluation of these solutions in section 4. The last section is a list of references.

2 Functional requirements of the publication database

In order to select the type of technology to be applied for the publication database, functional requirements for it are defined. It is envisaged that the user web interface will consist of four pages: a home page, a search page, a changes/corrections page, and an additions page.

The home page will provide links to the three main functions of the database:

- searching,
- submitting changes or corrections to the database, **and**
- submitting new publications to the database.

Internal and external navigation links are provided on each of these pages to allow movement inside and outside of the database. The Publications Database should allow for two types of searches for publications: a field search and browse. Field searches are performed by entering any or all of the following: author first name, author last name,



article title, journal title, keyword in title, and publication year. Results of this search may be sorted using a drop-down menu.

In addition, publications may be browsed by country or project partner. Performed through use of a drop-down menu, results of a country search will give a list of all project partners in the country and their related publications. In a similar manner, through a drop-down menu, results of a search for project partner will give the list of publications of that particular project partner.

Two additional functions, “Add Your Publications” and “E-mail Changes and Corrections,” aid maintenance of Publications Database will be available on the Home page. Project partners representatives, responsible with publications, will enter changes or corrections into a form, which is then submitted by e-mail to the webmaster for processing. When modifications are completed, changes and additions are confirmed with the author by e-mail.

3 Overview of existing applications for web-publications

Various database applications were considered, to see how the functional specifications can be met. Three options were selected, and are presented below.

3.1 Microsoft-Access database

One of the simplest solutions is to use a Microsoft Access database, which is ease to use in conjunction with Microsoft Internet Information Server. All available metadata on publications may be converted to plain text. The database can be structured to have a publication table in parallel with a table on the metadata regarding the project partners.

The Microsoft Access databases can be accessed from a Web browser through use of the Internet database connector (IDC) application included with Microsoft's Internet Information Server. The IDC application has three components, which includes a hypertext markup language (HTML) file, which is used to send the information request/search command; an IDC file, which runs the query in the datasource on the server using structured query language (SQL) statements; and an HTX file, which manages the search results processing and display template. Once obtained, search results are returned to and displayed by the Web browser.

Such implementations gave good results for small publications databases in universities. Example of Access database implementations for publications of staff of faculties, are at EE faculty of the Vienna University of Technology (K. Riedling)



3.2 RSS feed/ Webfeed

RSS (Rich Site Summary) is a format for delivering regularly changing web content. Many news-related sites, weblogs and other online publishers give their content as an RSS Feed.

RSS allows users to easily stay informed by retrieving the latest content from the sites they are interested in. The user does not need to visit the sites of interests regularly, it just need to use the RSS feed to extract information from that site. The reading from the sites of interest is done using a so called “Feed Reader”, which grabs the RSS feeds from various sites and display them for reading.

A variety of RSS Readers are available for different platforms. The most popular feed readers include Amphetadestk (Windows, Linux, Mac), FeedReader (Windows), and NewsGator (Windows - integrates with Outlook). There are also a number of web-based feed readers available. Google Reader and My Yahoo are popular web-based feed readers.

Once the user has the Feed Reader installed, it is a matter of finding the sites that share their content and adding these RSS feed to the list of feeds that the Feed Reader checks. Many sites display a small icon with the acronyms RSS, XML, or RDF to let users know a feed is available.

The implementation of RSS feeds and a FeedReader is an option for the enviroGRIDS, The feed reader will be incorporated in the main enviroGRIDS web site, on a dedicated web page for publications, and RSS feeds will be implemented at all project partners web sites, from where the information on publications will be retrieved.

Though it is an easy system, it has the disadvantage that all project partners should always make their publications available for RSS feeds.

3.3 Evergreen open source library software (<http://www.open-ils.org/>)

Evergreen is an open source software for libraries that helps library managers to find library materials, and helps libraries manage, catalog, and circulate those materials, no matter how large or complex the libraries.

The advantage is that it is an open source, which can be downloadable and tailored for the needs of a small publication database.

A screen example of an on-line implementation of this software is given in figure 1.

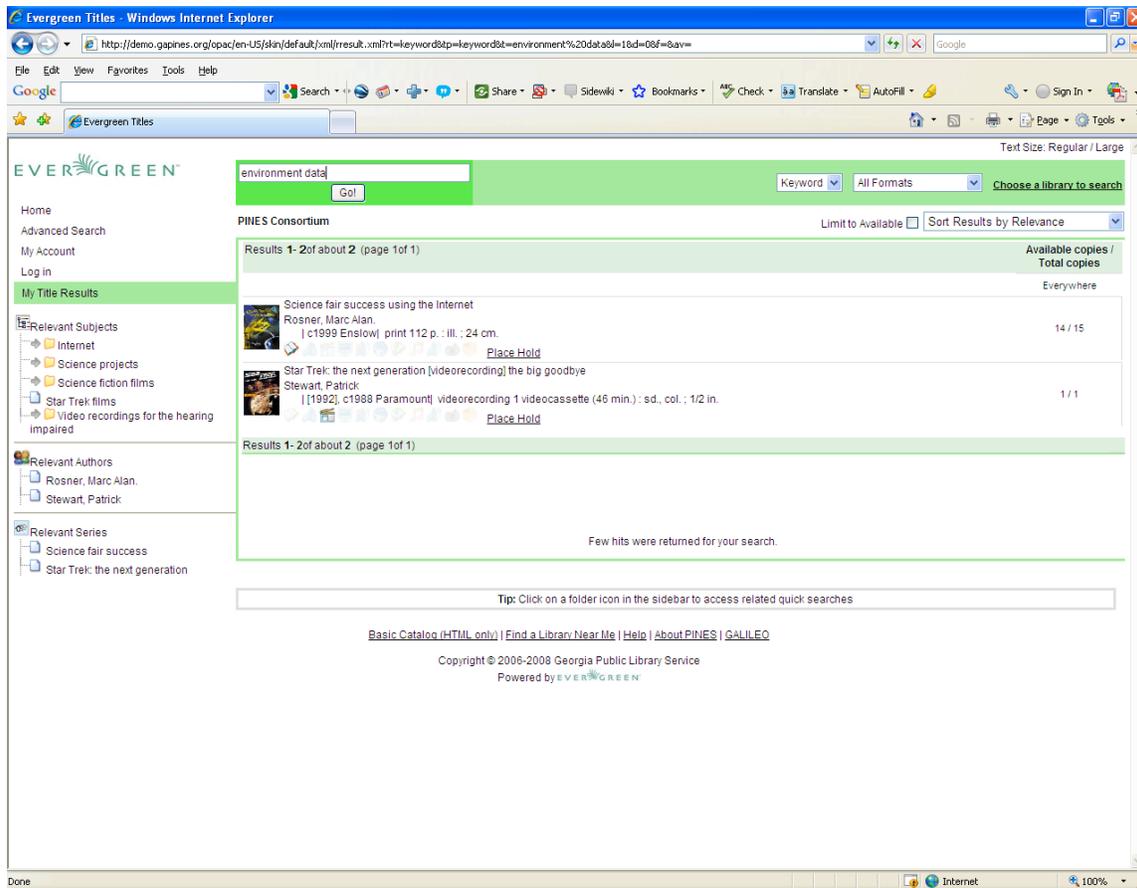


Figure 1. Evergreen search result screen

3.4 Sourceforge web-based library catalogue

(<http://sourceforge.net/projects/webpac/>)

A downloadable open source library catalogue is available from SourceForge.net site. It uses OpenIsis for CDS/ISIS files, http feed for web listings, MARC files and other structured sources like M\$ Excel files. It uses flexible XML config files.

It has the advantage of being open source, but it does not store the publication itself, and it is suitable for large number of publications.



3.5 EndNote web (<http://www.endnoteweb.com/enwebinfo.asp>)

EndNote Web is a Web-based service designed to store references of ISI Web of Knowledge, PubMed and hundreds of library OPACs directly.

Endnote requires an annual subscription in order to create an on-line account, and database, which can be managed by the account administrator. The capability of such an account is that :

- It can store up to 10,000 records per EndNote Web account
- Track references in multiple groups
- Simplify collaboration with colleagues—share EndNote Web groups, designating each collaborator as edit or read only
- Edit references—add notes and keywords

3.6 CiteULike

CiteULike is a free online service to organize academic publications, run by Oversity. It is active on the world wide web since 2004. This site allows users to bookmark or “tag” URIs with personal metadata using a Web browser. The number of articles bookmarked in *CiteULike* is approaching 2 million, indicated by the roughly incremental numbering used. While the *CiteULike* software is not open source, part of the dataset it collects is currently in the public domain.

It has the main disadvantage that the user of such system should invest time and effort in learning how to use the system.



4 Comparison of the available web-publishing solutions

Because the enviroGRIDS publications will be incorporated in the main enviroGRIDS website, the final decision on which web-publishing solution will be used, will be taken at the time of the finalization of the enviroGRIDS main database and website.

However at this moment, the disadvantages and advantages of the presented solutions are summarized in Table 1.

Table 1. Advantages and disadvantages of web-publication solution

Solution	Criteria					
	Implementation ++easy- - difficult	Cost (++) no cost...--costly)	Easy to add data ++easy..- - difficult	Easy to extract data (++)easy..--difficult)	Suitability for less than 5000 publications ++ suitable ...- - Not suitable	Integrable in other systems ++easy--difficult
Microsoft-Access database	+	+	++	++	++	+
RSS feed	+	+	+	++	++	+
Evergreen open source software	++	++	++	++	++	++
Sourceforge web-based library catalogue	-	++	+	++	+	-
EndNote web	+	--	+	+	++	-
CiteULike	-	-	-	+	++	--



Analysing the criteria from table 1, at this moment, the preferred option is to use the Evergreen open source library software.

5 References

K. Riedling -2003- "Design and Implementation of a Publication Database for the Vienna University of Technology"; Talk: VIEWDET 2003, Vienna, Austria Proceedings of the Vienna International Conference on eLearning, eMedicine and eSupport (VIEWDET 2003"

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***- <http://www.endnoteweb.com/enwebinfo.asp>

***- <http://sourceforge.net>