

OPEN ARCHIVES FORUM: INVENTORIES – OPEN ARCHIVES SOFTWARE TOOLS

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1 OPEN ARCHIVE SOFTWARE TOOLS

1.1 About Inventory of Open Archive Software Tools

The project reviewed a number of software products which support the OAI compliance of repositories and services. The appendix contains a list of 34 open source developments. This register covers specifications of the tool itself, it's purposes and technical requirements as well as designations about support and evaluation experiences as shown in the pattern below.

These experiences made with available software tools may contribute to the promotion and further implementation of OAI based open archives in Europe and may help communities to reach agreements on common solutions to technical issues.

<i>Tool Name</i>	
Programmer Organisation Description- URL Download- URL	
<i>Purpose</i>	
Communities User group (SP/DP) Description Supported Interfaces, Collection Systems, Formats	
<i>Technical Requirements</i>	
<i>Support</i>	
Installation instruction E-mail FAQ	
<i>Evaluation</i>	
Reusability Additional performances Adaptability Programming	

1.2 Comparison of DSpace and Eprints

Most the tools listed in the appendix are offering solutions for specific requirements e.g. only document archiving systems for Data Provider or special search functions needed for Service Provider or deployment of an OAI compatible interface to an existing web server/database. Like the results of the Technical Validation Questionnaire already showed within the last years obviously expectations to such tools changed.

The growing number of organisations interested in opening their archives via the Internet as well as the increasing number of digital and digitised data cause a break with early, some times experimental or isolated solutions. Large data sets produce a large need on ready, user-friendly complete solutions, which cover typical functionalities, are to be installed by relatively small expenditure, if necessary are adaptable to special requirements and causes also little expenditure with the further care of the data.

Two developments for archiving, which both pursue the objective to fulfil these requirements are comparatively confronted below under different aspects and characteristics: The **GNU EPrints** self-archiving software, that has been developed at the Electronics and Computer Science Department of the University of Southampton, UK. And **DSpace**, a newly developed digital repository as a joint project of the Massachusetts Institute of Technology (MIT) Libraries and the Hewlett-Packard Company, USA. These systems base on different technologies but are nearly identically in their functionality - search functions, document archiving, online interfaces for self archiving, integration of the OAI PMH, ...

	<i>Eprints</i>	<i>DSpace</i>
Installation	<p>Eprints is easy to set up: An installation script automates most of the installation processes.</p> <p>It is possible to chose between a source- or binary-installation. With the source one the software has to be compiled by the programmer. The binary one is precompiled for special architectures like Solaris Sparc systems. The programmer only need to configure the software.</p> <p>MySQL, Apache and mod_Perl, the components which are necessary for implementation are smooth installations - no matter if source- or binary-installation is chosen. The installation of additional required Perl modules need more time to resolve the dependencies.</p> <p>There are two possibilities to support the system: One installation variant is a Solaris environment. The second variant, Linux, is easier to maintain.</p> <p>If any installation problems are arising a comprehensive support is ensured. GNU Eprints has a separate website containing documentation, downloads, demonstration server and mailing lists: http://software.eprints.org/</p>	<p>The installation of DSpace requires a little more effort. But in fact DSpace is easy to run and maintain for any experienced systems engineer.</p> <p>In order to run DSpace the following list of Software is necessary to be installed and configured before: Java 1.3, Tomcat 4.0+, Apache 1.3, PostgreSQL 7.3+, Ant 1.5. Details of the requirements can be viewed at: http://dspace.org/technology/system-docs/install.html#prerequisite</p> <p>If the programmer follows step by step the installation documentation, Java, Ant and PostgreSQL are easy to install successfully.</p> <p>To set up DSpace man needs to compile the DSpace source code with java tool Ant. The Tomcat server must be started by user "dspace" and user "dspace" should then create a database named "dspace".</p> <p>With the installation some common problems arose, e.g. that Tomcat doesn't work when the DSpace is connected to Tomcat. Some changes in the configuration script solved that problem.</p> <p>There is no support service for the DSpace installation. But there is a detailed system documentation at: http://dspace.org/technology/system-docs/index.html. And also a public mailing list for the installation questions is supported.</p>

Programming language	Perl	Java
Operation system	Both environment variants had been tested: Solaris and Linux. Furthermore it is also possible to install Eprints2 on any computer that is running with GNU/Linux or UNIX operating system.	DSpace had been tested on Linux Suse 7.3. In general DSpace can run on Solaris, Linux and Windows systems.
Functions	<p>Eprints is free software which creates online archives:</p> <p>It is possible to store documents in any common format that the archive administrator defined to be accepted. Each individual research paper/ eprint/ ... can be stored in more than one document format.</p> <p>The archive can use any metadata schema; the administrator decides what metadata fields are held about each eprint. This is specified in three or four stages:</p> <ul style="list-style-type: none"> • Definition of a maximal set of metadata fields that should be stored (e.g. authors, title, journal, journal volume, etc.) • Definition of different types of eprints (e.g. refereed journal article, thesis, technical report, unpublished preprint, etc.) • Specification for each type which metadata fields should be stored, and which of those fields are mandatory. • Decide how these metadata fields should be projected into the Open Archives world. (If necessary, interoperability can be switched off, but this is strongly discouraged.) <p>More functions can be viewed at http://software.eprints.org/</p>	<p>DSpace can be used for self archiving by institutions and faculties. It provides long-term physical storage and management of digital items in a repository.</p> <p>DSpace is organised into "Communities" and "Collections", each of which retains its identity within the repository. It supports a variety of digital formats and content types including text, images, audio, and video and allows contributors to limit access to items in DSpace. All these items can be organised by an administration interface.</p> <p>DSpace supports the OAI protocol 2.0 as a data provider. This OAI support was implemented using OCLC's OAICat open-source software to make DSpace item records available for harvesting.</p> <p>Currently DSpace supports only the Dublin Core metadata element set with a few qualifications conforming to the library application profile. But there are still developing plans to support a subset of the IMS/SCORM element set (for describing education material) in the coming year.</p> <p>More details of DSpace functionality can be founded at http://libraries.mit.edu/dspace-mit/technology/functionality.pdf</p>
Reusage	Eprints is widespread all over the world. In August 2003 there are 72 worldwide archives running Eprints software officially listed (http://software.eprints.org/).	It is not reported how many archives are running DSpace software. One example of an European repository that implemented DSpace is "Erasmus University: Research Online".

Technology	<p>Eprints uses traditional technologies and runs on pure Open Source systems: MySQL is the world's most popular open source database, recognized for its speed and reliability and Apache has been the most popular web server on the Internet since April of 1996.</p> <p>Eprints is programmed by using the script language “Perl”, that is low level but powerful.</p>	<p>DSpace operates with new technologies such as the Postgres database, that is more advanced than MySQL and Tomcat for jsp/java web application, that has higher performance than eprints.</p> <p>Dspace supports and includes also handle server, which ensures that each document has unique and persistent URL.</p> <p>Optionally, DSpace can be protected by the security features (SSL) of Tomcat. It is also possible to use the redirect function (port number can be omitted) from Apache referring to Tomcat.</p>
Interoperability	<p>Eprints is freely distributable and subject to the GNU General Public License. This means that its source code is open and freely modifiable by any programmer who wishes to modify it (on condition that modifications are all free and open).</p> <p>Therefore in principle an adjustment to every environment is possible even if it is different than the recommended. Naturally this may be connected with substantial expenditure.</p> <p>However Eprints offers no supporting documents there are nevertheless mailing lists for support.</p>	<p>The DSpace system is freely available as open-source software. This allows to make any necessary changes to the downloaded copy. The system was designed to make adaptations for individual organisations as easy as possible.</p> <p>In fact, several modules in DSpace will probably be customised by organizations using this tool (e.g. it might be necessary to get authorization and authentication for more than one person). Or some organisations may want to adapt a different environment than recommended (e.g. replace postgresSQL by MySQL or Oracle). At the moment, substituting a different relational database than postgresSQL will require just a few changes to the system’s Browse module.</p> <p>Java provides documented Java APIs that can be enhanced to allow interoperation with other systems that an institution might be running (e.g. auto-depositing in DSpace a department’s web document system, or the campus data warehouse).</p>
Search	<p>Eprints allows to scan each of the metadata field types in the database by simple or advanced search. Any metadata field can be searched with fine granularity by SQL querying the database.</p> <p>Further information could be found at http://software.eprints.org/files/eprints1/docs/system.html#SECTION000600000000000000</p>	<p>DSpace offers two levels of text search: simple and advanced search. It’s submission process also allows to use a qualified version of the Dublin Core metadata schema for the description of each item. These descriptions are stored in a relational database, which is used by the search engine to retrieve items.</p>

1.3 Inventory of Open Archive Software Tools

Tool Name	Arc source
Programmer	5 developers, Xiaoming Liu
Organisation	Old Dominion University
Description- URL	http://sourceforge.net/projects/oaiarc/
Download- URL	http://sourceforge.net/project/showfiles.php?group_id=61532&release_id=136920
Purpose	
User group (SP/DP)	SP
Description	Arc is a federated search service based on OAI-PMH. It includes a harvester, a search engine together with a simple search interface, which is based on a database, OAI-PMH, and an OAI-PMH layer over harvested metadata.
Supported Interfaces, Collection Systems, Formats	Interfaces: JDBC, Search Metadata Formats: all kinds of metadata formats from received data providers
Technical Requirements	JDK1.4, Tomcat 4.0x, and RDBMS server (tested in Oracle and MySQL till now)
Support	
Installation instruction	Good Introduction at http://sourceforge.net/docman/display_doc.php?docid=13495&group_id=61532
E-mail	Support E-mail, Support requests, mailing lists, bugs
FAQ	No
Evaluation	
Reusability	-
Additional performances	Arc can be configured and customized for a specific community.
Adaptability	This architecture is platform independent and can work with any web server. The current implementation supports two relational databases, one in the commercial domain (Oracle), and the other in the public domain (MySQL). Moreover, the changes required to work with different databases are minimal.
Programming	The architecture of Arc has the major components: Search Engine, Harvester, and an OAI layer over Arc for hierarchical harvesting. Java Servlet application with classes.

Tool Name	CDSware
Programmer	Jean-Yves Le Meur, Tibor Simko, Thomas Baron, Martin Vesely, Hector Sanchez
Organisation	CERN
Description- URL	http://cdsware.cern.ch/index.shtml
Download- URL	http://cdsware.cern.ch/download/
Purpose	
User group (SP/DP)	SP
Description	CDSware allows you to run your own electronic preprint server, your own online library catalogue or a document system on the web. It complies with the Open Archives Initiative metadata harvesting protocol (OAI-PMH) and uses MARC 21 as its underlying bibliographic standard.
Supported Interfaces, Collection Systems, Formats	Supported Interfaces, Collection Systems: <ul style="list-style-type: none"> • Database • Configurable portal-like interfaces for hosting various kind of collections (ALEPH) • Powerful search engine with Google-like syntax Metadata Formats: oai_dc, MARC21.
Technical Requirements	MySQL database server and Apache (PHP, Python) web application server
Support	
Installation instruction	Good Introduction at http://cdsware.cern.ch/download/INSTALL
E-mail	Support E-mail, mailing lists
FAQ	No
Evaluation	
Reusability	-
Additional performances	Other platform independent services can be integrated in CDSware, such as the conversion server as an additional service provided within the CERN CDSware installation. Other services like Scan, Agenda, Webcast.
Adaptability	CDSware can be used after install.
Programming	Two ways metadata sharing: <ul style="list-style-type: none"> • Hierarchical Harvesting • Reciprocal Harvesting Object-oriented Python application with modules.

Tool Name	Celestial (OAIA)
Programmer	Tim Brody
Organisation	University of Southampton
Description- URL	http://celestial.eprints.org/
Download- URL	http://oai-perl.sourceforge.net/ http://sourceforge.net/project/showfiles.php?group_id=21275
Purpose	
User group (SP/DP)	SP
Description	Celestial is a service that harvests metadata from repositories that support OAI-PMH, and caches that data for other services to harvest. Celestial can harvest from repositories that support the OAI-PMH 1.0, 1.1, and 2.0 versions. Metadata can be harvested from Celestial using version 2.0.
Supported Interfaces, Collection Systems, Formats	Interface: Database Metadata Formats: all kinds of metadata formats from received data providers
Technical Requirements	oai-perl v2, MySQL, Perl 5.6.x and a CGI-capable web server.
Support	
Installation instruction	In the file 'Install.txt' by download.
E-mail	Contact E-mail, support requests, bugs
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	Celestial can be used without changes.
Programming	Perl modules

Tool Name	DLESE OAI Software
Programmer	
Organisation	Digital Library for Earth System Education
Description- URL	http://dlese.org/oai/index.jsp
Download- URL	
Purpose	
User group (SP/DP)	DP/SP
Description	The DLESE OAI software is designed to be simple to install, configure and use and includes both a data provider and harvester. The data provider serves metadata from XML files, automatically updating what is provided whenever the XML files change. The harvester likewise saves harvested metadata to files. The software supports the OAI-PMH v2.0. In addition, the data provider exposes its metadata to outside clients as a web service through an Open Digital Libraries (ODL) search interface. Remote clients can perform keyword search queries over the metadata using the ODL search interface and receive an ordered list of matching records within the standard OAI-PMH XML response.
Supported Interfaces, Collection Systems, Formats	Interfaces: Search Metadata Formats: adn, dlese_ims, dlese_anno, news_opps, dlese_collection, briefmeta, oai_dc, dc_qual, dc_simple, nsdl_dc
Technical Requirements	The software is packaged as a Java WAR file for use in a servlet environment such as Tomcat and will run on UNIX, Windows and Mac OS X.
Support	
Installation instruction	Good Introduction at http://dlese.org/oai/INSTALL.txt
E-mail	Support E-mail
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	-
Programming	Java Servlet and XSL application with classes.

Tool Name	DP9
Programmer	Xiaoming Liu
Organisation	Old Dominion University
Description- URL	http://arc.cs.odu.edu:8080/dp9/about.jsp
Download- URL	http://arc.cs.odu.edu:8080/dp9/install.jsp
Purpose	
User group (SP/DP)	SP
Description	DP9 is a gateway service that enables indexing of an OAI data provider by an Internet search engine. DP9 does this by providing a persistent URL for repository records, and converting this to an OAI query against the appropriate repository when the URL is requested. This allows search engines that do not support the OAI protocol to index the "deep web" contained within OAI compliant repositories
Supported Interfaces, Collection Systems, Formats	Metadata formats: oai_dc, rfc1807
Technical Requirements	Tomcat 4.0, JDK1.4,
Support	
Installation instruction	Good Introduction at http://arc.cs.odu.edu:8080/dp9/install.jsp
E-mail	Support E-mail
FAQ	No
Evaluation	
Reusability	Arc
Additional performances	-
Adaptability	DP9 can be used without changes.
Programming	Object- oriented Java Servlet Package, XSLT

Tool Name	DBUnion Archive Merger Component
Programmer	Hussein Suleman
Organisation	Virginia Tech
Description- URL	http://oai.dlib.vt.edu/odl/software/dbunion/
Download- URL	http://oai.dlib.vt.edu/odl/software/dbunion/
Purpose	
User group (SP/DP)	DP
Description	Merge together different OAI-accessible archives into a single archive for local storage and processing, with a pseudo-OAI (ODL-Union) interface for access.
Supported Interfaces, Collection Systems, Formats	
Technical Requirements	<p>mySQL or similar database, with access to create tables in a database that has already been created</p> <ul style="list-style-type: none"> - Perl, with modules DBI, DBD::mySQL (or DBD::Pg or ...) - Ability to run CGI scripts
Support	
Installation instruction	An Introduction at http://oai.dlib.vt.edu/odl/software/dbunion/
E-mail	Support E-mail, mailing list
FAQ	No
Evaluation	
Reusability	
Additional performances	-
Adaptability	DBUnion Archive Merger Component can be used without changes
Programming	Perl modules

Tool Name	DSpace
Programmer	Mick Bass, Margret Branschofsky, Peter Breton , Peter Carmichael, William Cattey, Eric Celeste, Dan Chudnov, Joyce Ng, David Stuve, Robert Tansley
Organisation	HP Labs and MIT Libraries
Description- URL	DSpace Federation site: http://www.dspace.org/ DSpace MIT site: http://libraries.mit.edu/dspace-mit/
Download- URL	http://sourceforge.net/projects/dspace/
Purpose	
User group (SP/DP)	SP
Description	DSpace is an open source software platform that enables institutions to: <ul style="list-style-type: none"> • capture and describe digital works using a submission workflow module • distribute an institution's digital works over the web through a search and retrieval system • preserve digital works over the long term
Supported Interfaces, Collection Systems, Formats	Interfaces: JDBC,Search Metadata format: D.C Qualifiers
Technical Requirements	Tomcat 4.0, JDK1.3, Apache 1.3 (optional), Ant 1.4, PostgreSQL 7.2+
Support	
Installation instruction	an Introduction at http://dspace.org/technology/system-docs/install.html
E-mail	Support E-mail, mailing list, no install support.
FAQ	Yes
Evaluation	
Reusability	<ul style="list-style-type: none"> • used by EUR (http://www.eur.nl) • used by DSpace at CWRU (https://tech-team-help.cwru.edu/index.jsp) • used by DSpace at MIT (https://hpds1.mit.edu/index.jsp) • used by Cambridge University Library (http://www.lib.cam.ac.uk/dspace/doc/proposal.htm)
Additional performances	-
Adaptability	DSpace can be used without changes.
Programming	Three layers java application architecture.

Tool Name	Eprints
Programmer	Christopher Gutteridge
Organisation	University of Southampton
Description- URL	http://www.eprints.org/
Download- URL	http://software.eprints.org/download.php
Purpose	
User group (SP/DP)	SP
Description	Eprints Software to run centralised, discipline-based as well as distributed, institution-based archives of scholarly publications. The software is OAI compliant, i.e. metadata can be harvested from repositories running the software using the OAI metadata harvesting protocol.
Supported Interfaces, Collection Systems, Formats	Interfaces: Database, Search Metadata format: oai_dc
Technical Requirements	UNIX-like operating system, Apache WWW server, Perl programming language, MySQL database
Support	
Installation instruction	Good Introduction at http://software.eprints.org/docs/php/installation.php#installation
E-mail	Support E-mail, mailing list
FAQ	Yes
Evaluation	
Reusability	72 known archives running Eprints software worldwide. See the lists at: http://software.eprints.org/
Additional performances	Support language feature.
Adaptability	Eprints can be used without changes and customized to change the sites.
Programming	Perl web application with modules.

Tool Name	ETD-db OAI Extensions
Programmer	Hussein Suleman
Organisation	Virginia Tech
Description- URL	http://www.dlib.vt.edu/projects/OAI/software/ndltd/ndltd.html
Download- URL	http://www.dlib.vt.edu/projects/OAI/software/ndltd/ndltd.html
Purpose	
User group (SP/DP)	DP
Description	This is a server extension that allows to become an OAI Data Provider with a minimum of effort.
Supported Interfaces, Collection Systems, Formats	Interface: Database Metadata formats: oai_dc
Technical Requirements	Anywhere where ETD-db works.
Support	
Installation instruction	Good Introduction at http://www.dlib.vt.edu/projects/OAI/software/ndltd/ndltd.html
E-mail	Contact E-mail, reply very fast.
FAQ	No
Evaluation	
Reusability	Used by repository 'DuetT'
Additional performances	-
Adaptability	ETD-db OAI Extensions can be used after install.
Programming	Object-oriented perl classes, Component-oriented programming code layout.

Tool Name	Greenstone
Programmer	Stefan Boddie, Katherine Don, Michael Dewsnip
Organisation	University of Waikato
Description- URL	http://www.greenstone.org/english/home.html
Download- URL	http://www.greenstone.org/english/download.html
Purpose	
User group (SP/DP)	SP
Description	Greenstone is a suite of software which has the ability to serve digital library collections and build new collections. It provides a new way of organising information and publishing it on the Internet or on CD-ROM.
Supported Interfaces, Collection Systems, Formats	Interfaces: Database, Search, Metadata, Collection It doesn't support an OAI Repository implementation. But a Greenstone collection can be built from the records exported from an OAI data provider.
Technical Requirements	Greenstone has been tested on Windows 3.1/3.11/95/98/Me/NT/2000, most distributions of GNU/Linux, Darwin (Mac OS X), Solaris, and FreeBSD. Apache Webserver, Perl, Gnu Database Manager, GDBM.
Support	
Installation instruction	Good Introduction available in English, Spanish, French, Russian and Kazakh at http://www.greenstone.org/english/docs.html
E-mail	Support E-mail, Support requests, mailing lists
FAQ	Yes
Evaluation	
Reusability	Examples of Greenstone can be viewed at: http://www.greenstone.org/english/examples.html
Additional performances	Greenstone with extra functionalities (e.g. export to CD-ROM, utilities to the Windows Application, Organiser) can be simply installed.
Adaptability	Greenstone is open-source software. It can be contributed and improved under the terms of the GNU General Public License.
Programming	cgi based Perl modules

Tool Name	<i>i-TOR</i>
Programmer	-
Organisation	the Netherlands Institute for Scientific Information Services
Description- URL	http://www.i-tor.org/en/toon
Download- URL	http://www.eurocris.org/cgi-bin/odbic.exe/box/object.odb?ID=494
Purpose	
User group (SP/DP)	SP
Description	i-Tor - Tools and technology for Open Repositories - is a web technology which enables you to run an OAI data provider, an OAI service provider, a Content Management System (CMS) and a Publication tool. Various types of information can be presented through a web interface, no matter where the displayed information comes from or what its format is. i-Tor makes it easy to create repositories, collaboratories, information portals, websites, database retrieval, and so on. Even small (research) institutes can easily implement and use the application-toolbox.
Supported Interfaces, Collection Systems, Formats	<ul style="list-style-type: none"> • Supported Interfaces and Metadata formats: • Database (Oracle and MySql) • File systems • Simple search interface • OAI Archives • Entering data in different formats (ASCII text, HTML,RTF,PDF) • Any Metadata format
Technical Requirements	Platform independent: Java-built , MySQL/Oracle, Jetty Web Server.
Support	
Installation instruction	-
E-mail	-
FAQ	No
Evaluation	
Reusability	-
Additional performances	OAI access (viewing functionality only) and SOAP (all functionality) are planned.
Adaptability	i-Tor allows institutions to extend certain aspects of the interface using Java (for example, to create custom views for search results).
Programming	Object oriented java programming

Tool Name	MyCoRe
Programmer	MyCoRe Team
Organisation	University Essen
Description- URL	http://www.mycore.de/
Download- URL	There is only a demo version.
Purpose	
User group (SP/DP)	SP
Description	MyCoRe is an Open Source project for the development of Digital Library and archive solutions (or, put more generally, 'Content Repositories' >> CoRe). In the MyCoRe project a group of universities is working on the development of a shared software core for such applications. This core will be adjustable to local requirements and easy to modify. This is expressed by the 'My' in MyCoRe, which represents the local adaptability. On the basis of this core which will be available under the open source GNU General Public License, specific local applications will emerge at the participating institutes. The technical base of the system is formed of Java class libraries, XML technology and the database backend IBM Content Manager and IBM DB2. Core Components The Core Functionalities of MyCoRe include the following: Document and Person Metadata Internal Filesystem Hierarchical Classification System User and Rights Management Workflow and Workbasket Functions User and Author Interface Distributed Search Function and an Interface for OAI.
Supported Interfaces, Collection Systems, Formats	Interface: Database. Metadata format: oai_dc
Technical Requirements	
Support	
Installation instruction	No
E-mail	Support E-mail
FAQ	No
Evaluation	
Reusability	Used by MILESS (Digital multimedia learning and teaching documents in Essen)
Additional performances	-
Adaptability	
Programming	Java, XML, XSL

Tool Name	my.OAI
Programmer	
Organisation	my.OAI
Description- URL	http://www.myoai.com/
Download- URL	http://www.myoai.com/downloads/
Purpose	
User group (SP/DP)	SP
Description	<p>my.OAI is a very simple Perl based OAI Harvester. my.OAI is a full-featured search engine to a selected list of metadata databases from the Open Archives Initiative project. my.OAI can be tailored by the user to suit individual interests and provides the following features:</p> <ul style="list-style-type: none"> • Forms based query formulation • Viewing search results either merged together, or as meta-results, or separated by database • Automatic display of summaries when viewing search results • Display of similar documents when viewing documents • Display of recommended documents when viewing documents • Automatic mark-up of retrieved documents with search links • Search history listing searches made and documents retrieved • Saving searches for later re-use (with an SDI option) • Saving documents in folders • Emailing documents to others <p>my.OAI can be accessed either as a guest user or by creating an account.</p>
Supported Interfaces, Collection Systems, Formats	<p>Interface: Database</p> <p>Metadata format: oai_dc</p>
Technical Requirements	MPS Information Server, MPS Information Server Perl Interface and the MPS Information Server Search Interface developed by FS Consulting, Inc.
Support	
Installation instruction	No
E-mail	Support E-mail
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	My.OAI can be used without changes.
Programming	Perl modules

Tool Name	NCSTRL/Dienst
Programmer	
Organisation	Networked Computer Science Technical Research Library
Description- URL	http://www.cs.cornell.edu/cdlrg/dienst/software/DienstSoftware.htm
Download- URL	Not found
Purpose	
User group (SP/DP)	DP (Dienst protocol)
Description	Dienst is a system for configuring a set of individual services running on distributed servers to cooperate in providing the services of a digital library.
Supported Interfaces, Collection Systems, Formats	Interface: Database, collection system, Dienst protocol
Technical Requirements	Any computer system that supports Perl
Support	
Installation instruction	http://www.cs.cornell.edu/cdlrg/dienst/software/DienstSoftware.htm
E-mail	Yes
FAQ	No
Evaluation	
Reusability	Used by <ul style="list-style-type: none"> • National Library of Portugal • NCSTRL, the Networked Computer Science Technical Reference Library. • CoRR, the Computing Research Repository. • The Open Archives Initiative. • ETRDL, the ERCIM Technical Reference Digital Library. • Cornell University Library Historical Math Book Collection • Cornell University Library Making of America Collection • Hein online Retrospective Law Journals
Additional performances	-
Adaptability	-
Programming	Perl modules

Tool Name	OAICat
Programmer	Jeffrey Young
Organisation	OCLC Research
Description- URL	http://www.oclc.org/research/software/oai/cat.shtm
Download- URL	http://www.oclc.org/research/software/oai/cat.shtm
Purpose	
User group (SP/DP)	DP
Description	OAICat is a Java Servlet web application providing an OAI-PMH v.2.0 repository framework. This framework can be customized to work with arbitrary data repositories by implementing some Java interfaces.
Supported Interfaces, Collection Systems, Formats	Interfaces: JDBC Metadata Formats: oai_etdms, oai_dc
Technical Requirements	Tomcat web Server, Java 1.3
Support	
Installation instruction	Good introduction at http://www.oclc.org/research/software/oai/cat.shtm
E-mail	Support with email, reply very fast
FAQ	No
Evaluation	
Reusability	easy to reuse, e.g. used by National Library of Portugal, Dspace used by EUR (http://www.eur.nl). used by Mémoires et thèses de l'Université Laval (http://www.theses.ulaval.ca:8080/oaicat/servlet/OAIHandler)
Additional performances	OAICat package with customized Implementations for file system, JDBC
Adaptability	OAICat package for file system can be used without changes OAICat package for JDBC can be adapted by customers generically
Programming	Java servlet application with modules

Tool Name	OAI Data Provider Script HUBerlin
Programmer	Uwe Müller
Organisation	Humboldt University
Description- URL	http://dochost.rz.hu-berlin.de/oai2.0/
Download- URL	http://dochost.rz.hu-berlin.de/oai2.0/
Purpose	
User group (SP/DP)	DP
Description	This implementation completely complies to OAI-PMH 2.0, supporting the rapid deployment of an OAI compatible interface to an existing web server/database. for example: Apache web server/Sybase
Supported Interfaces, Collection Systems, Formats	Interface: Database, Web server
Technical Requirements	Sybase database, Apache web server, PHP4
Support	
Installation instruction	
E-mail	Contact email
FAQ	No
Evaluation	
Reusability	Used by Data provider HU Berlin
Additional performances	-
Adaptability	OAI Data Provider Script HUBerlin can be used after install
Programming	PHP modules

Tool Name	OAIHarvester
Programmer	Jeffrey Young
Organisation	OCLC Research
Description- URL	http://www.oclc.org/research/software/oai/harvester.shtm
Download- URL	http://www.oclc.org/research/software/oai/harvester.shtm
Purpose	
User group (SP/DP)	DP
Description	OAIHarvester is a Java application providing an OAI-PMH v2.0 harvester framework. This framework can be customized to perform arbitrary operations on harvested data by implementing some Java interfaces.
Supported Interfaces, Collection Systems, Formats	Metadata Formats: oai_dc
Technical Requirements	Tomcat web Server, Java 1.3
Support	
Installation instruction	Good introduction at: http://www.oclc.org/research/software/oai/harvester.shtm
E-mail	Support with email, reply very fast
FAQ	No
Evaluation	
Reusability	easy to reuse ,e.g. used by Graduate Institute of Library and Information Science used by National Taiwan Normal University. used by EUR (http://www.eur.nl).
Additional performances	-
Adaptability	OAIHarvester can be used without changes
Programming	Java Servlet application with modules

Tool Name	OAI Implementation for Windows
Programmer	Tom Habing
Organisation	University of Illinois, Urbana-Champaign
Description- URL	http://oai.grainger.uiuc.edu/ProviderTools/
Download- URL	http://sourceforge.net/project/showfiles.php?group_id=47963
Purpose	
User group (SP/DP)	DP
Description	This is a simple, illustrative implementation of the OAI metadata protocol, using Microsoft Windows NT server technologies
Supported Interfaces, Collection Systems, Formats	Interfaces: ODBC. Metadata format: oai_dc
Technical Requirements	<p>Operating System / Platform:</p> <ul style="list-style-type: none"> • Microsoft Windows NT 4 Server • Microsoft Windows NT 4 Workstation • Microsoft 2000 Advanced Server • Microsoft 2000 Professional <p>Microsoft Internet Information Server (IIS), version 4 or higher Microsoft Active Server Pages (ASP): ASP modules included use VBScript The Microsoft XML Parser (MSXML) 4.0 Core Services Java Components: JRE 1.3 (or 1.4)- Java runtime environment available at http://java.sun.com/j2se/1.3/download.html Microsoft Data Access Components (MDAC)</p>
Support	
Installation instruction	In the read-me file by download.
E-mail	Contact E-mail, support requests, bugs
FAQ	No
Evaluation	
Reusability	-
Additional performances	Metadata can be stored in XML files Metadata can be stored in html files Metadata can be stored in Microsoft Access
Adaptability	OAI Java Implementation for Windows can be used without changes
Programming	Object-oriented VB programming

Tool Name	OAI Java Implementation for Linux/Windows
Programmer	Tom Habing
Organisation	University of Illinois, Urbana-Champaign
Description- URL	http://oai.grainger.uiuc.edu/ProviderTools/
Download- URL	http://sourceforge.net/project/showfiles.php?group_id=47963
Purpose	
User group (SP/DP)	DP
Description	This is a simple, illustrative implementation of the OAI metadata protocol, using Java.
Supported Interfaces, Collection Systems, Formats	Interface: JDBC Metadata format: oai_dc
Technical Requirements	Platform independent, Apache HTTP Server Version 1.3 or higher, Tomcat servlet container for Servlet/JSP, Version 4.0 or higher, Xalan-Java packages for XML parsing and XSLT transformation, MySQL
Support	
Installation instruction	In the read-me file by download
E-mail	Contact E-mail, support requests, bugs
FAQ	No
Evaluation	
Reusability	Used by Université du Québec à Chicoutimi - Documentation régionale (http://sdeir.uqac.ca/)
Additional performances	Metadata can be stored in XML files Metadata can be stored in html files
Adaptability	OAI Java Implementation for Linux can be used without changes.
Programming	Object-oriented Java Servlet programming

Tool Name	<i>oai-perl library</i>
Programmer	Tim Brody
Organisation	University of Southampton
Description- URL	http://oai-perl.sourceforge.net/
Download- URL	http://oai-perl.sourceforge.net/
Purpose	
User group (SP/DP)	SP or DP
Description	A library of PERL language classes that allow the rapid deployment of an OAI compatible interface to an existing web server/database.
Supported Interfaces, Collection Systems, Formats	Interface: Database, Web server
Technical Requirements	Perl 5.6.x, ability to run CGI scripts
Support	
Installation instruction	In the read-me file by download.
E-mail	Contact email
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	oai-perl library can be used after install
Programming	Object-oriented Perl modules

Tool Name	OAIster
Programmer	
Organisation	University of Michigan Digital Library Production Services
Description- URL	http://oaister.umdl.umich.edu/o/oaister/
Download- URL	-
Purpose	
User group (SP/DP)	SP
Description	The University of Michigan Library service establishes a broad, generic, information retrieval resource for information about publicly available digital library resources provided by the research library community. This service is built through a collaboration that relies on the University of Illinois's metadata harvester
Supported Interfaces, Collection Systems, Formats	Interface: Database, search
Technical Requirements	
Support	
Installation instruction	
E-mail	Yes
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	-
Programming	-

Tool Name	OMNIS 2
Programmer	
Organisation	Technical University Munich
Description- URL	http://sunbayer59.informatik.tu-muenchen.de/projekte/omnis2/publications/TUM-I0109.pdf
Download- URL	
Purpose	
User group (SP/DP)	SP
Description	OMNIS 2 is a library system, which allows users to indicate multimedia documents in full text and to search.
Supported Interfaces, Collection Systems, Formats	Interface: Database, Web server, XML, XSLT Formats: oai_dc
Technical Requirements	
Support	
Installation instruction	
E-mail	Contact email
FAQ	No
Evaluation	
Reusability	Used by university Munich
Additional performances	-
Adaptability	-
Programming	Java components

Tool Name	Open Video
Programmer	
Organisation	University of North Carolina at Chapel Hill
Description- URL	http://www.open-video.org/
Download- URL	-
Purpose	
User group (SP/DP)	SP
Description	The Open Video is a shared digital video repository and test collection intended to meet the needs of researchers in a wide variety of areas related to digital video. The Open Video collection currently contains video or metadata for 1865 digitised video segments.
Supported Interfaces, Collection Systems, Formats	Interface: Database
Technical Requirements	-
Support	
Installation instruction	-
E-mail	Contact email
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	-
Programming	-

Tool Name	OPUS (not registered at openarchives)
Programmer	
Organisation	University of Stuttgart
Description- URL	http://opus.uni-stuttgart.de/opus/doku/english/index.html
Download- URL	-
Purpose	
User group (SP/DP)	SP
Description	OPUS allow to convert the electronic document to PDF (portable document format) and write some metadata about it, which will be stored in Dublin Core format using a mSQL-database. Retrieval will therefore have the typical functionality of other well-known online databases - different search-fields, truncation-options, Boolean operators etc.
Supported Interfaces, Collection Systems, Formats	Interface: database, search Metadata Formats: oai_dc
Technical Requirements	-
Support	
Installation instruction	-
E-mail	Contact email, mailing list.
FAQ	Yes
Evaluation	
Reusability	Used by Online Publications of the University of Stuttgart
Additional performances	-
Adaptability	-
Programming	-

Tool Name	ParaTools (not register at openarchives)
Programmer	
Organisation	Southampton University
Description- URL	http://paracite.eprints.org/developers/
Download- URL	http://paracite.eprints.org/developers/downloads.html
	not activ
Purpose	
User group (SP/DP)	SP
Description	ParaTools is a set of Perl modules for the handling of references. It includes: <ul style="list-style-type: none"> • Reference parsing modules and templates • Document parsing modules (Experimental) • OpenURL creation/processing routines • Parsing examples • Web Service examples
Supported Interfaces, Collection Systems, Formats	Interface: database, search
Technical Requirements	-
Support	
Installation instruction	-
E-mail	Contact email, mailing list
FAQ	Yes
Evaluation	
Reusability	Used by http://paracite.eprints.org/
Additional performances	-
Adaptability	-
Programming	Perl modules

Tool Name	PHP OAI Data Provider
Programmer	Heinrich Stamerjohanns
Organisation	University of Oldenburg
Description- URL	http://physnet.uni-oldenburg.de/oai/
Download- URL	http://physnet.uni-oldenburg.de/oai/
Purpose	
User group (SP/DP)	DP
Description	This implementation completely complies to OAI-PMH 2.0, including the support of on-the-fly output compression which may significantly reduce the amount of data being transferred.
Supported Interfaces, Collection Systems, Formats	Interface: Database Metadata Formats: oai_dc
Technical Requirements	-
Support	
Installation instruction	Introduction at: http://physnet.uni-oldenburg.de/oai/
E-mail	Contact E-mail
FAQ	No
Evaluation	
Reusability	Used by repository 'IFEApub'
Additional performances	support compressed XML, connect to many existing databases, by using PEAR abstract layer.
Adaptability	PHP OAI Data Provider can be used without changes quite easy to configure
Programming	PHP modules

Tool Name	Rapid Visual OAI Tool
Programmer	Sathish Kumar Kothamasa
Organisation	Old Dominion University
Description- URL	http://rvot.sourceforge.net/
Download- URL	http://rvot.sourceforge.net/downloads.htm
Purpose	
User group (SP/DP)	DP
Description	Rapid Visual OAI Tool (RVOT) can be used to graphically construct an OAI-PMH repository from a collection of files. The records in the original collection can be in any one of the acceptable format. The format currently supported are RFC1807, Marc subset & COSATI formats. RVOT helps to define the mapping visually from a native format to oai_dc format, and once this is done the tool can respond to OAI-PMH requests. The tool is self-contained; it comes with a lightweight http server and OAI-PMH request handler and is written in Java.
Supported Interfaces, Collection Systems, Formats	Collection Systems: Collections of files Metadata Formats: oai_dc, RFC1807, Marc subset & COSATI formats
Technical Requirements	Windows 2000/NT/XP, Linux or Unix Java (JDK 1.3.1_02 and above)
Support	
Installation instruction	Good instruction at : http://rvot.sourceforge.net/package/readme.txt
E-mail	Contact E-mail
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	Rapid Visual OAI Tool can be used without changes RVOT architecture can be easily extended to support other metadata formats.
Programming	Java packages with metadata converter.

Tool Name	Scout Portal Toolkit (SPT)
Programmer	-
Organisation	University of Wisconsin-Madison
Description- URL	http://scout.wisc.edu/research/SPT/
Download- URL	http://scout.wisc.edu/Projects/SPT/downloads.php
Purpose	
User group (SP/DP)	SP
Description	<p>The Scout Portal Toolkit (SPT) allows groups or organisations that have a collection of knowledge or resources they want to share via the World Wide Web to put that collection online without making a big investment in technical resources or expertise.</p> <p>The SPT provides a number of features:</p> <ul style="list-style-type: none"> - Cross-Field Searching (Advanced Search); - Metadata field editor, which allows portal administrators the ability to add, delete, or disable a variety of metadata fields; - Resource comments by Users; - Intelligent User Agents; - Resource Quality Ratings by Users; - Suggested Resource Referrals (Recommender System); - Support for RSS channel export and the Open Archives Initiative (OAI) Protocol for Metadata Harvesting 2.0;
Supported Interfaces, Collection Systems, Formats	<p>Interfaces: Database, Search, OAI Protocol2.0</p> <p>Metadata Formats: DC</p>
Technical Requirements	The Scout Portal Toolkit requires a web server with PHP 4.0.6 and MySQL 3.23 or later. PHP must be installed with MySQL support.
Support	
Installation instruction	Good Introduction at http://scout.wisc.edu/Projects/SPT/downloads.php
E-mail	Support E-mail, mailing lists
FAQ	Yes.
Evaluation	
Reusability	
Additional performances	SPT can be easily configured and used without change.
Adaptability	The SPT user interface is easily to customize through the "Customize System Appearance" option on the Administration menu. The metadata field set in SPT is easily modifiable and expandable by the portal administrator.
Programming	PHP 4 modules

Tool Name	SISIS-Elektra
Programmer	
Organisation	Sisis GMBH
Description- URL	http://www.sisis.de/dasat/index.php3?cid=100047&sid=dasat3ef2ca4b7f1bc0x52071700x1056098891
Download- URL	
Purpose	
User group (SP/DP)	SP
Description	SISIS Elektra is a component system for the structure of information portals - user-friendly, easily administration and expandable and with most modern technology. It can be used and in combination with OPAC systems or other news services.
Supported Interfaces, Collection Systems, Formats	
Technical Requirements	
Support	
Installation instruction	
E-mail	Contact E-mail
FAQ	No
Evaluation	
Reusability	Used by technical university Munich (http://www3.in.tum.de/)
Additional performances	-
Adaptability	
Programming	

Tool Name	Viser
Programmer	Gary Simons
Organisation	SIL International
Description- URL	http://www.language-archives.org/viser
Download- URL	http://www.language-archives.org/tools/viser/viser.php4.txt
Purpose	
User group (SP/DP)	SP
Description	A virtual service provider for displaying selected OLAC metadata
Supported Interfaces, Collection Systems, Formats	Supported Interfaces and Metadata formats: <ul style="list-style-type: none"> • MySQL database • XML processing • Any Metadata format
Technical Requirements	PHP4, Webserver, XSLT
Support	
Installation instruction	-
E-mail	-
FAQ	No
Evaluation	
Reusability	Used by service: Open Language Archives, repository: OLACA.language-archives.org.
Additional performances	-
Adaptability	-
Programming	PHP4 programming, XSL processing

Tool Name	VT ETD-db
Programmer	Anthony Atkins
Organisation	Virginia Tech
Description- URL	http://scholar.lib.vt.edu/ETD-db/
Download- URL	http://scholar.lib.vt.edu/ETD-db/developer/install.html#download
Purpose	
User group (SP/DP)	SP
Description	
Supported Interfaces, Collection Systems, Formats	Interface: Database, Search Metadata formats: oai_dc
Technical Requirements	Solaris, Mysql, Perl, CGI.pm, The DBI and DBD:Mysql modules for perl, The Tie-IxHash module for perl, Web Server Software
Support	
Installation instruction	Good Introduction at http://scholar.lib.vt.edu/ETD-db/developer/install.html
E-mail	Contact E-mail, reply very fast.
FAQ	No
Evaluation	
Reusability	Used by software” ETD-db OAI Extensions” Used by repository ‘DuetT’ Used by Université Catholique de Louvain (UCL)
Additional performances	VT ETD-db can be changed by configuration files, graphics, web pages, etc. to customize the ETD-db for the customer’s site.
Adaptability	VT ETD-db can be used after install.
Programming	Object-oriented perl classes, Component-oriented programming code layout.

Tool Name	VTOAI OAI-PMH Perl Implementation
Programmer	Hussein Suleman
Organisation	Virginia Tech
Description- URL	http://www.dlib.vt.edu/projects/OAI/software/vtoai/vtoai.html
Download- URL	http://www.dlib.vt.edu/projects/OAI/software/vtoai/vtoai.html
Purpose	
User group (SP/DP)	DP
Description	This toolkit implements the skeleton of the OAI-PMH v2.0 in an object-oriented fashion, thus hiding the details of the protocol from code that is derived from the predefined class.
Supported Interfaces, Collection Systems, Formats	Metadata formats: oai_dc
Technical Requirements	Perl, Web server with ability to run CGI scripts
Support	
Installation instruction	Good Introduction at http://www.dlib.vt.edu/projects/OAI/software/vtoai/vtoai.html
E-mail	Contact E-mail
FAQ	No
Evaluation	
Reusability	Used by software 'XMLFile' Used by Utrecht University Library Used by EUR (http://www.eur.nl) Used by Université Libre de Bruxelles
Additional performances	-
Adaptability	No compilation - Perl scripts need only be copied Minimal changes required to create a working implementation
Programming	Object-oriented perl classes Component-oriented programming code layout

Tool Name	XMLFile
Programmer	Hussein Suleman
Organisation	Virginia Tech
Description- URL	http://www.dlib.vt.edu/projects/OAI/software/xmlfile/xmlfile.html
Download- URL	http://www.dlib.vt.edu/projects/OAI/software/xmlfile/xmlfile.html
Purpose	
User group (SP/DP)	DP
Description	This is a data provider module that operates over a set of XML files that contain the metadata. It is meant to require a minimal of effort while retaining all the flexibility of the OAI protocol.
Supported Interfaces, Collection Systems, Formats	Metadata formats: oai_dc
Technical Requirements	Perl, Web server with ability to run CGI scripts
Support	
Installation instruction	Good Introduction at http://www.dlib.vt.edu/projects/OAI/software/xmlfile/xmlfile.html
E-mail	Contact E-mail
FAQ	No
Evaluation	
Reusability	Used by Repository 'Eldorado'
Additional performances	-
Adaptability	No compilation - Perl scripts need only be copied, Minimal changes required to create a working implementation.
Programming	Component-oriented perl programming.

Tool Name	ZMARCO
Programmer	Tom Habing
Organisation	University of Illinois, Urbana-Champaign
Description- URL	http://zmarco.sourceforge.net/
Download- URL	http://zmarco.sourceforge.net/
Purpose	
User group (SP/DP)	DP
Description	ZMARCO is an Open Archive Initiative Protocol for Metadata Harvesting (OAI-PMH) 2.0 compliant data provider. The 'Z' in ZMARCO stands for Z39.50; 'MARC' stands for MACHine-Readable Cataloguing; and the 'O' stands for OAI, as in the Open Archives Initiative. ZMARCO allows MARC records which are already available through a Z39.50 server to relatively easily be made available via the OAI-PMH.
Supported Interfaces, Collection Systems, Formats	Interfaces: ODBC, Z39.50 Metadata formats: oai_dc, oai_dc_1.1, marc21, oai_marc, mods
Technical Requirements	Windows 2000 Internet Information Server 5 (IIS 5) Active Server Pages (ASP) Accessible (no user id or password required) Z39.50 Server supporting the following features: <ul style="list-style-type: none"> • USmarc Record Syntax (may be extended to support other MARC syntaxes in the future) • Bib-1 Use Attribute 31, Publication Year • Bib-1 Use Attribute 12, Control Number • No limit on the number search hits available for one query
Support	
Installation instruction	Good Introduction at http://zmarco.sourceforge.net/README.html
E-mail	Contact E-mail
FAQ	No
Evaluation	
Reusability	-
Additional performances	-
Adaptability	ZMARCO can be used after easy configuration
Programming	Component-oriented programming code with different languages (VB, JScript)