

NSDL Pathways and Partners Tools and Services Inventory



AMSER

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---|----------|--|--|-------------------------|
| Contributing Resources (cataloging, collection building) | CWIS/SPT | CWIS and/or SPT provide collection developers with a toolset which allows them to easily catalog and showcase their resources and share them with the NSDL http://scout.wisc.edu/Projects/CWIS/ | Post Production Enhancements: CWIS requires a web server that supports PHP and MySQL. The software is designed to run on a LAMP (Linux / Apache / MySQL / PHP) platform, but is also being run in the field on OS X, Solaris, and FreeBSD | Open/Sharable |
| Search Engine | OSMASE | OSMASE (pronounced "ahz-maze") is an Open Source Metadata Archive Search Engine. http://scout.wisc.edu/Projects/OSMASE/ | Post Production Enhancements: OSMASE is written in PHP and relies on an SQL database underneath | Open/Sharable |
| Collection and Harvest Administration | OAI-SQ | OAI-SQ is a simple extension to the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH), intended to provide a method of performing keyword or field-based searches of an OAI repository. http://scout.wisc.edu/Projects/OAISQ/ | Post Production Enhancements: OAI-SQ queries are backwards-compatible versions of the OAI-PMH 2.0 ListRecords and ListIdentifiers requests. The search string (for a simple keyword search) or set of field name / search string pairs (for a fielded search) are conveyed as part of the set parameter in a ListIdentifiers or ListRecords request. | Open/Sharable |

BEN

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---|---|--|---|-------------------------|
| Contributing Resources (cataloging, collection building) | BEN Collaborative Collections Tool - Part 1 | Generalized cataloging tool that generates metadata records in accordance with the BEN Metadata spec and allows additional fields and vocabularies to be supported. http://www.biosciencednet.org/project_site/ | Production: PHP V4.0 with Pear 1.4 extensions & MySQL database for Apache 1.3 platform | Sharable |
| Contributing Resources (cataloging, collection building) | BEN Collaborative Collections Tool - Part 2 | Integrated peer-review management system addition to the generalized cataloging tool http://www.biosciencednet.org/project_site/ | Development: PHP V4.0 with Pear 1.4 extensions & MySQL database for Apache 1.3 platform | Sharable |
| Collection and Harvest Administration | BEN Metadata Harvester | Supports harvesting of metadata from BEN Collaborators http://www.biosciencednet.org/project_site/ | Post Production Enhancements: Perl 5.8, SQL database | Sharable |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Chemical Education -- Teach Chem

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---------------------------------------|---------------------|--|---|---|
| Collection and Harvest Administration | CWIS | Provide metadata repository that is OAI compliant for harvest by NSDL http://scout.wisc.edu/Projects/CWIS/ | Production: PHP, MySQL, Mac OS X, local | Open source, GPL |
| Outreach and Community Building | Web Crossing | Discussion forums, community services http://www.webcrossing.com/ | Production: commercial; WCTL, WCJS (proprietary Web Crossing scripting languages, WCJS a JavaScript variant); Mac OS X; local | Commercial |
| Contextualization, Assembly Layer | FileMaker Pro | Submission management http://www.filemaker.com/ | Post Production Enhancements: database, Mac OS X, Windows | Commercial; internally developed solution to handle submission/review/publication workflow |
| Content Management | phpwebsite | Division of Chemical Education website http://phpwebsite.appstate.edu/ | Production: CMS; PHP, MySQL; Mac OS X; local | Open source, GPL |
| Evaluation | Summary | Log analysis http://www.summary.net | Production: commercial, log analysis and statistics | Commercial |
| Vocabulary Translation | Chemistry thesaurus | Bridge between chemistry terms and JCE DLib controlled vocabulary http://jchemed-54.chem.wisc.edu/jcedl/ttoc/ | Development: PHP, MySQL; Mac OS X | Internal pilot project; forms basis for Textbook Tables of Contents browsing interface (TToC) |
| Visualization | Jmol | Molecular model visualization http://jmol.sourceforge.net/ | Production: Java applet | Open source, visualization of molecular models |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

CSERD

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---|------------------------------|---|---|-------------------------|
| Search, Collection and Harvest Administration | CWIS | CWIS is used to index and search our metadata database, and to export OAI. For example: when records are updated, CWIS rebuilds our search database; when a user enters a simple or advanced search, their search interface and results come directly from CWIS; those harvesting our metadata contact the OAI server provided by CWIS. scout.wisc.edu | Production: Linux/Apache/MySQL/PHP; Provided interface design is customized using CWIS' plug-in "faces" feature | |
| Content Management | Plone | Plone is used to store (the content and workflow of) reviews about our catalog items. For example: when a user clicks on "add a review" he/she is transparently directed into a customized Plone interface for editing reviews. Later, editors will work through another customized Plone interface to approve the submitted reviews. plone.org | Production: Zope/Python; Running on Linux; Customized using Python "products" that extend the Plone codebase | |
| Evaluation | Omniture | Omniture tracks our website traffic on a page-by-page basis. omniture.com | Production: Javascript | |
| Evaluation | Google Analytics | Google Analytics provides in-depth reports on traffic for all of Shodor's site, including CSERD. analytics.google.com | Production: Javascript | |
| Contextualization, Assembly Layer | CWIS Advanced Browser System | To allow site users to explore CSERD's metadata and find relevant resources with more power and flexibility. For example: a user can browse simultaneously on multiple metadata facets, as in combining subject with education level. shodor.org (in-house product) | Production: Javascript/PHP/MySQL | Requires CWIS and SPT |
| Content Management | Scout Portal Toolkit (SPT) | To store CSERD's metadata while allowing access from the different tools involved: CWIS, PHP, Plone, and CWABS scout.wisc.edu | Production: Linux/Apache/MySQL/PHP | |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Engineering Pathway -- NEEDS

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|--|---|--|---|---|
| Contributing Resources (cataloging, collection building) | Metadata Cataloging Form | Cataloging resource metadata http://www.needs.org/needs/public/about_needs/projects/catalog/ | Production: Part of the main system that runs on ATG Dynamo/Java platform | Not Sharable |
| Collection and Harvest Administration | OAI-PMH Client | Harvesting OAI-PMH servers | Production: ATG Dynamo/Java | Possibly sharable with modifications |
| Collection and Harvest Administration | Search agent for REST-based search services | Execute search queries and aggregate search results from remote REST-based search services | Development: ATG Dynamo/Java | Not Sharable |
| Collection and Harvest Administration | Search agent for SOAP-based search services | Execute search queries and aggregate search results from remote SOAP-based search services | Production: ATG Dynamo/Java/Axis | Not Sharable |
| Collection and Harvest Administration | Lucene | Generate search index of resources http://lucene.apache.org/ | Production: 3rd party Java API | |
| Content Management | Metadata-level resource review system | A system for reviewing submitted resources at the metadata-level. | Development: ATG Dynamo/Java | Not Sharable |
| Personalization | Recommendation System | Recommend resources or community with similar interests based on user's past activities http://www.smete.org/smete/public/about_smete/activities/technology/recommender/?xsl=1 | Production: ATG Dynamo/Java | Currently deployed on www.smete.org . Would require major modifications for the tool to be sharable. |
| Personalization | Workspace | Allows user to bookmark their favorite resources | Production: ATG Dynamo/Java | Not Sharable |
| Tagging, Rating, Review | Star-based rating | Rating resources by users (0-5 stars) | Production: ATG Dynamo/Java | Not Sharable |
| Tagging, Rating, Review | User comment form | Form to allow users commenting on resources | Production: ATG Dynamo/Java | Not Sharable |
| Authentication | NSDL Community Single Sign-on | User authentication for local and NSDL community users | Development: Java/Shibboleth/Tomcat | |
| Vocabulary Translation | Thesaurus generation and mapping | Generate a thesaurus from resource abstracts. Used for query refinement and suggestions at this time. | Development: Java | Maybe sharable when the algorithm is mature |
| Outreach and Community Building | RSS Feed | RSS feed for new resources added | Production: Java/ROME API | Not Sharable |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Engineering Pathway -- NEEDS (continued)

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|-------------------------|---------------------------|--|-----------------------------------|--|
| Search Service | SOAP-based search service | A SOAP-based search service for searching Engineering Pathway resources http://www.smete.org/smete/public/about_smete/activities/technology/federated_search/?xsl=1 | Production: ATG Dynamo/Java/Axis | No restriction on using the service |
| Search Service | REST-based search service | A REST-based search service for searching Engineering Pathway resources | Development: ATG Dynamo/Java | Search protocol similar to NSDL search service |
| Harvest | OAI-PMH Server | OAI-PMH server to allow others harvesting Engineering Pathway resources | Production: ATG Dynamo/Java | |
| Web Presence | Advanced search | Allows user to search resources by various metadata fields such as author, grade, host collection | Production: ATG Dynamo/Java | |
| Evaluation | Analog | Internal usage stats tracking http://www.analog.cx/ | Production: see URL | |
| Evaluation | Omniture | Usage tracking | Production | |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Engineering Pathway -- TeachEngineering

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---|---------------------|---|---|--|
| Contributing Resources (cataloging, collection building) | Authentic by Altova | Authoring documents in XML http://www.altova.com/products/authentic/xml_db_form_editor.html | Production: see URL | Free tool |
| Contributing Resources (cataloging, collection building) | XMLSpy by Altova | Creation of XML document templates http://www.altova.com/products/xmlspy/xml_editor.html | Production: see URL | Leading (commercial) tool for XML development |
| Contributing Resources (cataloging, collection building) | CVS | Document repository http://www.nongnu.org/cvs/ | Production: see URL | Free inf. Repository tool. |
| Collection and Harvest Administration | TE Spider | Dedicated app. for ingesting and indexing documents into the collection | Production: In-house written in Java | |
| Collection and Harvest Administration | Lucene | Used in index collection documents for full text searching http://lucene.apache.org/ | Production: see URL | Open source, easy to use, fast full text searching |
| Collection and Harvest Administration | MySQL | Collection index database www.mysql.com | Production: see URL | Open source, easy to use, relational DB (no full text searching; hence Lucene) |
| Collection and Harvest Administration | Linux (Debian) | Hosting OS www.debian.org | Production: OS | |
| Content Management | Metadata app. | Dedicated app. for generating collection metadata | Production: in-house written in PHP | |
| Content Management | XMLFile | OAI server http://www.dlib.vt.edu/projects/OAI/software/xmlfile/xmlfile.html | Production: File-based OAI server (Open Source) | File- rather than database-based OAI server. |
| Web Presence | Apache | www.apache.org | Production: see URL | Together with OS, most centrally used software. |
| Web Presence | Rendering engine | Dedicated app. for rendering documents | Production: In-house written in PHP | |
| Web Presence | Search engine | Dedicated app. for searching the collection | Production: In-house written in PHP | |
| Web Presence | GeoIP | App. for geocoding IP addresses http://www.maxmind.com/app/country | Production: Commercial tool | |
| Web Presence | Linux (Debian) | Hosting OS www.debian.org | Production: OS | |
| Web Presence | HTMLDOC PDF-O-Matic | App. for generating document PDF files http://www.easysw.com/htmldoc/pdf-o-matic.php | Production | |
| Collection and Harvest Administration | Admin apps. | Several dedicated apps. for checking & reporting collection status | Production: In-house written; PHP and Linux shell scripting | |
| Educational Standards | Edu. Search engine | Dedicated app. for searching edu. stds. correlation data. | Production: In-house written in PHP | |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Math Gateway

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---|---------------------------|--|---|---|
| Contributing Resources (cataloging, collection building) | CWIS | Create OAI metadata server(s) for small collections http://scout.wisc.edu/Projects/CWIS/index.php | Production | Talk to Ed Almasy |
| Content Management | Content Management System | Manage all the pages displayed by the site mathgateway.maa.org | Production | Software created by Lucidea Corporation |
| Web Presence | Lucene (Search engine) | Search partner metadata, harvested from OAI servers http://lucene.apache.org/ | Production: Open Source | |
| Web Presence | My Library | User workspace, discussion boards, tagging resources, etc mathgateway.maa.org | Production | Part of Lucidea CMS |
| Authentication | Unified sign-on | Unify sign-on for Math Gateway and MathDL | Planning/Design: Plan to use Shibboleth | |
| Web Presence | Math in the News | Daily news column mathgateway.maa.org | Production | Uses Lucidea CMS |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

| Teachers Domain | | | | |
|--|------------------------|--|---|-------------------------|
| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
| Contributing Resources (cataloging, collection building) | TD Metadata Schema | Allows content producers to add media asset with relevant metadata, including contextualization, to TD | Production: XML Schema (.xsd) | |
| Contextualization, Assembly Layer | TD Metadata Schema | Provides range of contextualization including annotation, synopsis, background essay(s), questions for discussion, | Production | |
| Contributing Resources (cataloging, collection building) | TD Advisor Review | Provides environment for advisors to review and comment on resources in production https://tdm.teachersdomain.org | Production: custom PHP/MySQL web application | |
| Educational Standards | TD Lexicon Tool | Allows you to assign a lexicon term as part of resource metadata package, which then automatically correlates it to relevant entries in TD standards database | Production: currently tied to TD database/web application; planning a REST implementation | |
| Educational Standards | TD Standards Database | Database includes all state standards in Science, derived from ASN where available, and generated by WGBH from source documents for many sets of standards not catalogued by ASN. When user asks for stds correlation, sees those from own state (as per registration) as well as national orgs. | Production: planning a REST implementation, integration with ASN services | ASN |
| Educational Standards | TD Lexicon API | Will allow other projects to make calls to the TD standards database using lexicon terms they've assigned to their resources. | Planning/Design: planning a REST implementation, integration with ASN, Syracuse services | ASN |
| Evaluation | Media utilization tool | Allows us to track usage patterns of video and interactive media assets | Planning/Design: QuickTime, Flash, XML, Apache | |
| Personalization | Resource Folders | Allows users to create lists of TD resources links and add their own annotations, for personal use, or to share with others in their group. In devp is feature that lets users add their own url links as resources. | Post Production Enhancements: Perl/MySQL, migration to Python/MySQL | |
| Personalization | Groups | Allows users to create groups of other TD users and make resource folders available to specific groups | Production: Perl/MySQL, migration to Python/MySQL | |
| Professional Development, Teacher Ed | TD PD Courses | Eight-session and 4-session courses that use TD resources to teach both content and pedagogy | Production: Perl/MySQL, migration to Python/MySQL | |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

| Teachers Domain (continued) | | | | |
|---------------------------------------|---------------------------------------|---|---|---------------------------------------|
| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
| Authentication | TD User Registration | Tracks user name, school name, city, state, and zip code | Production: Perl/MySQL, migration to Python/MySQL | |
| Localization, Geo-spatial | TD Affiliate, Content Partner, Entity | Database tracks which local partner is offering the service and adds logo branding, which partner is supplying resources, and which local partner sign-in page user comes from, to determine branding and mix of national and local resources | Development: Apache | Requires coordination with affiliates |
| New Collaborator Management | TD Production Manual | PDF of step-by-step instructions for resource development | Development | |
| Collection and Harvest Administration | CWIS | Expose metadata for harvest via OAI-PMH | Production | |
| Contextualization, Assembly Layer | The Caption Center | Video captioning, audio transcripts | Production: Could, but do not use MagPIE | |
| Personalization | TD Learner profiles | Using IMS Access for All specifications, match users to content with appropriate access levels | Planning/Design | |
| Evaluation | Omniure | Tag-based web metrics http://www.omniure.com | Production | NSDL CI contract with Omniure |
| Web Presence | TowerStream | Point to point wireless internet service provider | Production | |
| Web Presence | RackSpace | Managed hosting provider | Development | |
| Contextualization, Assembly Layer | TD QuickTime player | Quicktime "skin" to present captions | Production: QuickTime; planning feature upgrade in coming year to support audio descriptions, multiple audio tracks | |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Core Integration (and other NSDL Partners)

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|-----------------------------------|-------------------------------|---|---|---|
| Contributing Resources | email | Suggest 1 to several materials or websites for inclusion http://recommend.nsdlib.org/ | Production | |
| Contributing Resources | Recommender in CRS | Recommend 1 to n materials or website/collections http://crs.nsdlib.org/index.php | Production -- close to retirement | Not sharable, retiring soon |
| Contributing Resources | CWIS | Build collection available for OAI harvest, Build website / portal http://scout.wisc.edu/Projects/CWIS/ | Production | Open/Sharable |
| Contributing Resources | Community Hosted CWIS | Build collection and portal, recommend a resource | Development | Available for community use |
| Contributing Resources | DLESE Toolset | Build collection or resource set, metadata quality control, recommend a resource http://www.dlese.org/about/index.html | Post Production Enhancements | Will be available for community use |
| Contributing Resources | iVia | Crawl website, generate metadata http://ivia.ucr.edu/#software | Development | Available for partner testing |
| Contributing Resources | OAI | Allows ingest and harvest of metadata | Production | Open/Sharable |
| Contributing Resources | Publisher OAI Service | Specialized OAI service for publisher groups | Production | Available for community use |
| Contributing Resources | NDR API | API for ingest / harvest with NSDL's Data Repository | Development | Available for partner testing Oct 1, 2006 |
| Contributing Resources | MyNSDL, OurNSDL, ExpertVoices | Recommend resources | Development: Capabilities under development in ExpertVoices | Available for community use |
| Contextualization, Assembly Layer | Instructional Architect | Create educational /teaching objects http://ia.usu.edu/ | Post Production Enhancements | Available for community use |
| Contextualization, Assembly Layer | ExpertVoices | Create educational objects, wide range of materials http://expertvoices.nsdlib.org/ | Development | Available for community use |
| Contextualization, Assembly Layer | Redlib-type, MyNSDL | Organize and annotate web content | Planning/Design | Proposed for community use |
| Content Management | OnRamp | Content management and editorial workflow http://fedora.nsdlib.org:8380/NCCS/viewer.jsp | Development | Will be available for partner and community use |
| Content Management | Scout Portal Toolkit (SPT) | Content management http://scout.cs.wisc.edu/Projects/SPT/ | Post Production Enhancements | Open/Sharable |
| Content Management | NSDL Community Pages | Calendaring and events communications http://nsdl.org/resources_for/library_builders/?pager=news | Production | Available for community use |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Core Integration and other NSDL Partners (continued)

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|---------------------------------------|------------------------------|--|-------------------------------------|---|
| Educational Standards | CAT/ASN | Align resources to education standards http://www.jesandco.org/ASN/default.asp | Post Production Enhancements | Will be available for partner use |
| Educational Standards | Strand Map | Concept mapping http://www.ieee-tcdl.org/Bulletin/v2n1/butcher/butcher.html | Development | Will be available for partner use, sharable |
| Educational Standards | DLESE Toolset | Align resources to education standards http://www.dlese.org/about/index.html | Post Production Enhancements | Will be available for partner and wider community use |
| Collection and Harvest Administration | CRS | Editing and reporting within the Metadata Repository (MR) http://crs.nsdlib.org/collection_list.php | Production | Not sharable, retiring soon |
| Collection and Harvest Administration | NDR Admin | Editing, approving and reporting within the NSDL Data Repository (NDR) | Planning/Design | Will be available for partner use |
| Outreach and Community Building | ExpertVoices | Communications and content development http://expertvoices.nsdlib.org/ | Development | Available for community use |
| Outreach and Community Building | OnRamp | Publication, collaboration, editorial workflow http://fedora.nsdlib.org:8380/NCCS/viewer.jsp | Development: Release date, Nov 2006 | Will be available for partner use |
| Outreach and Community Building | OurNSDL | Community start-up and communications, participation | Planning/Design | Will be available for community use |
| Outreach and Community Building | NSDL Annual Meeting Pages | Conference registration, submissions, management http://nsdl.comm.nsdlib.org/ | Production | |
| Outreach and Community Building | Sales Force DB | Contacts information management | Production | Available for partner use |
| Outreach and Community Building | Ready Talk | Teleconferencing | Production | Commercial, available for community use |
| Outreach and Community Building | NSDL Community Pages | Group workspace, email distribution, core documentation http://nsdl.org/resources_for/library_builders/index.php | Production | Available for community use |
| Outreach and Community Building | RSS, OnRamp | Generate news to share across NSDL partner webpages | Development | Will be available for community use |
| Web Presence | NSDL.org | Primary channel for communications, discovery of resources and services http://nsdl.org/ | Production | Available for community use |
| Web Presence | NSDL Search Engine | Discovery of resources http://search.comm.nsdlib.org/cgi-bin/wiki.pl?CornellSearchService | Production | Available for community use |
| Authentication | Community Sign-on | Authentication, Identity and group management http://accessmgmt.comm.nsdlib.org/cgi-bin/wiki.pl | Production | Encouraged for community use |
| Web Presence | Pathway and partner websites | Discovery of resources and services | Various life cycle stages | |

NSDL Pathways and Partners Tools and Services Inventory



Draft prepared 10/10/06

Core Integration and other NSDL Partners (continued)

| Tool / Service Category | T/S Name | Purpose / URL | Status / Software Characteristics | Comments / Dependencies |
|-------------------------|-----------------------------------|---|-----------------------------------|--|
| Web Presence | Browse interface | Discovery of resources; GEM topic browse http://nsdl.org/browse/?GEM_cat=true and Browse by collection http://crs.nsd.org/collection/ | Production | Available for community use |
| Visualization | StarTree | Discovery of resources http://nsdl.org/browse/ata glance/browseBySubject.html | Production | Open source |
| Web Presence | NSDL Community Pages | Group workspace, email distribution, core documentation http://nsdl.org/resources_for/library_builders/index.php | Production | Available for community use |
| Web Presence | NSDL Toolbar | Downloadable NSDL search, Pathways reference | Production | Distribution encouraged, sharable design |
| Web Presence | Sitemap/Landing page for Crawlers | Enhance discoverability | Development | Sharable design |
| Web Presence | OurNSDL | Community participation | Planning/Design | Will be available for community use |
| Web Presence | SDSC Archive | Persistent webpage | Production | Available for community use |
| Evaluation | Omniture | Web statistics tracking / reporting http://eval.comm.nsd.org/ | Production | Encouraged for community use |
| Taxonomic Index | Taxonomic Intelligent Index | Navigable taxonomic indexes, name recognition tools and Global Unique Identifiers (GUIDs) allow content to be navigated, browsed and searched by classification schemes of the users choice. http://names.mbl.edu/paddy/index.php | Post prototype enhancements | Applicable to botany with March 2007 release. Sharable and will be available for use in other disciplines. |

Tools and services inventory forthcoming:

comPADRE

Mat DL

Middle School Portal