Fedora Tools

Note: The applications listed on this page are tools that have been released for the public to download and use. See Fedora User Interface Projects for a community listing that includes unfinished/unreleased projects and their status (or to post info about your own ongoing projects).

Web UI / Front End Applications

The Fascinator

Status: Active

Fedora Versions: 2.1.x and 3.0

Contributor: University of Southern Queensland

website

The Fascinator is an Apache Solr front end to the Fedora commons repository. This project is funded by ARROW, as part of the mini project scheme. The Fascinator is written in Java. It drops into the Tomcat server that comes with Fedora. The goal of the project is to create a simple interface to Fedora that uses a single technology - that's Solr - to handle all browsing, searching and security. This contrasts with solutions that use RDF for browsing by 'collection', XACML for security and a text indexer for fulltext search, and in some cases relational database tables as well. We wanted to see if taking out some of these layers makes for a fast application which is easy to configure. So far so good.

The Fascinator can:

- Create one or more web portals for a Fedora 3 repository
- Ingest content from other sources into Fedora 3 using OAI-PMH, a direct connection to Fedora 2 or via the experimental OAI-ORE
- Provide simple efficient access control to Fedora repositories
- It is Open Source (GPL)

Islandora

Status: Active

Fedora Versions: 2.1.x

Contributor: University of Prince Edward Island

website

Robertson Library is releasing the their Fedora-Drupal module Islandora as opensource. There is a Islandora project hosted by Fedora Commons here. The Islandora module allows Drupal users to view and manage digital objects stored in Fedora. There is a demo Amazon ec2 image running here http://ec2-75-101-195-219.compute-1.amazonaws.com/. The ami has both Drupal and Fedora installed. The disk space available to for this image is limited. If you use Amazon's EBS you could get upto a terabyte of space. There is also a S3 adapter written for Fedora that could be used. If you have an Amazon AWS account you can launch your own version of the image. The public image name is ami-e9d23680. Once the image is started you will have to login to the newly created image using ssh and start Fedora. To start Fedora cd to /usr/local/fedora/tomcat/bin and type ./startup.sh. This will start Tomcat which will bring up the Fedora web application. You will then be able to use a browser to view your new ami instance by browsing to the ami's public DNS address. We have created a google group to act as a mailing list for the Islandora module. You can send email here islandora@googlegroups.com or visit here http://groups.google.com/group/islandora.

Blacklight

Status: Active

Fedora Versions: 2.1.x - ?

Contributor: ?

website | demo | download

Blacklight is an open source OPAC (online public access catalog). That means libraries (or anyone else) can use it to allow people to search and browse their collections online. Blacklight uses Solr to index and search, and it has a highly configurable Ruby on Rails front-end. Currently, Blacklight can index, search, and provide faceted browsing for MaRC records and several kinds of XML documents, including TEI, EAD, and GDMS. Blacklight was developed at the University of Virginia Library and is made public under an Apache 2.0 license.

A next generation library catalog written in ruby, using solr as the underlying search engine. All you have to do is export your marc records, index them with the scripts provided, start up ruby on rails, and you're on your way to faceted browsing bliss.

RubyFedora

Status: Active

Fedora Versions: 2.x - 3.3

Contributor: matt.zumwalt [at] yourmediashelf.com

website

RubyFedora provides a set of Ruby gems for creating and managing objects in the Fedora Repository Architecture (http://fedora-commons.org). RubyFedora was created by, and is maintained by Mediashelf (http://yourmediashelf.com)

Fez

Management and Search Front End

Status: Active

Fedora Versions: 2.1 - 2.1.1 (2.2 soon)

Contributor: University of Queensland Christiaan Kortekaas c.kortekaas@library.uq.edu.au

website (wiki) | download

Fez is a web front-end management system for Fedora that is developed in PHP. This work is part of UQ eScholarship Project and the Australian Partnership for Sustainable Repositories. Fez functionality includes:

- Web-based browsing and searching
- Semi-advanced searching
- Complex security model with shibboleth support
- Automatic image resizing/thumbnailing
- Dublin Core, MODS, PREMIS

Flori

Flori (Fedora Learning Object Repository Interface)

Status: Active

Fedora Versions: 2.2.1

Contributor: Flori is a GPL licensed open source project, developed and maintained by Func. Internet Integration for Kennisnet Ict op school.

website | download

Flori is a web front-end for Fedora Commons, specialized in managing *learning objects* and their meta data. Key features include virtual repositories and flexible meta data schema's.

VALET for ETDs

Management and Search Front End

Status: Unknown

Fedora Versions: 2.0 (and 2.1 soon)

Contributor: VTLS Inc._ angela@vtls.com_

download

VALET for ETDs is a customizable, web-based interface to Fedora. It allows remote users to submit content into a VITAL or FEDORA digital object repository. VALET for ETDs features include:

- Handling of any file format
- Configurable metadata entry
- Staged submission process whereby any number of review stages can be integrated
- Authorization of edit, delete, or approval for submitted content prior to ingest

ELATED

Management and Search Front End

Status: Unknown

Fedora Versions: 1.2.1 - 2.1.1

Contributor: ACS Technology Center" Eric Jansson ejansson@colleges.org

website | download

ELATED is a lightweight, general-purpose application for managing digital files. ELATED is built on top of the Fedora Repository system, and can be used as a digital assets management system, an institutional repository, or to meet other collection archiving, publishing and searching needs.

- Dublin Core metadata entry and search
- Custom metadata by collection
- Automatic previews for images
- Collections with simple editorial workflow
- Indexing and searching of content (e.g. text in MS Word or PDF document)
- User feedback, enabled by collection
- Select and import existing Fedora objects

VUE

Specialized Front End

Status: Unknown

Fedora Versions: 1.1.1 - 1.2.1

Contributor: Tufts University Academic Technologies" David Grogan david.grogan@tufts.edu

download

The Visual Understanding Environment (VUE) project provides faculty and students with flexible tools to successfully integrate digital resources into their teaching and learning. Using VUE's concept mapping interface, faculty and students design customized semantic networks of digital resources drawing from digital libraries, local files and the Web.

- Visual environment for structuring, presenting, and sharing digital info
- OKI-compliant software bridge for connecting to FEDORA repositories
- Concept mapping interface
- View and exchange content maps online

Muradora

Turnkey Web GUI for Fedora

Status: Active

Fedora Versions: 2.2.x, 3.1

Contributor: Muradora Project [Nishen Naidoo]

demo | download

Muradora is designed to be a turnkey web front-end for Fedora focusing on flexible access control (see DRAMA). It is being developed as part of the DRAMA project(now the Muradora Project). **Muradora** is built in Java using the Spring Framework (with Struts 2), and makes heavy use of AJAX technologies to provide a richer and more dynamic user interface.
Its functionality includes:

- Browsing and Searching (full-text)
- Self submission and publishing interface
- Support for Shibboleth authentication
- Tree view of user-defined collections (based on user's own RDF ontology)
- Authorization based on XACML but with an easy intuitive access control GUI (no need for any raw XACML editing by the end user)
- Flexible metadata (DC, MODS, etc...) input based on XForms standard (utilizing Orbeon XForm server side engine so no browser plugins are required).
- Utilizing DRAMA middleware components (see below) for better management of policies and consistent access control across many GUIs talking to a single Fedora server

FABULOUS

content Management Front End

Status: Active

Fedora Versions: 2.0 - 2.1.1 (2.2 and 2.2.1 in testing)

Contributor:

University of South Australia

mailto.prashant.pandeyatunisa.edu.au Prashant Pandey

download

In 2006 the ARROW (Australian Research Repositories Online to the World) Project funded two miniprojects at the University of South Australia, namely ARROW Batch Utilities and ARROW Batch edit tool to solve the issue of batch metadata editing. The combined outcome of this work resulted in the creation of web based, open source PHP application called FABULOUS (Fedora ARROW Batch Utility with Lots of User Services). FABULOUS reduces time required to manage repository content by enabling modifications to user selected sets of objects and data streams. Fabulous functionality includes:

- Batch activate datastreams
- Batch de-activate datastreams
- Link batches of content files to existing metadata
- Edit batches of metadata files
- Plus more..

Middleware

Fedora Enhanced Content Models

Status: Active

Fedora Versions: 3.*

Contributor: State and University Library, Denmark Asger Askov Blekinge abr@kb.dk

website

Enhanced Content Models have a number of new features compared to the Fedora 3.0 content models. First of these is the more elaborate specification of the data objects. Second is the repository view system, which allows the repository to dynamically remap the contained data to virtual data objects. And third is the object creation templates, which allows the content models to behave as object classes from which new data object instances can be made.

All our work is under the Apache 2.0 License, and is/will be available as add-ons to Fedora.

Fedora is an extensible repository system, containing data objects and content models, which hold descriptions of the data objects that subscribe to them. In Fedora 3.0 Content Models express the classes of objects, and tie data objects to disseminators, but do little else.

Content Models are formal descriptions of data objects, which should be distinguished from datamodels, which are descriptions of collections of data. Having a datamodel is a requirement for many digital repositories and the easiest solution is creating an interface that only allows data to be entered in a special format. If all data is input through this interface, it will adhere to the datamodel. Unfortunately, this has the side effect of coupling the datamodel to the program code of the interface.

We believe that the datamodel should not be part of the interface, it should be part of the repository. We achieved this by enhancing the Content Models. The Enhanced Content Models can specify the cardinality and target classes of relations, and schemas for datastreams. We have implemented a validator, which checks data objects against their Content Models. A set of Enhanced Content Models makes up a datamodel.

In Fedora, you might have atomic objects making up a "record", but for indexing purposes, this record must be flattened to one compound. Enhanced Content Models can specify how to do this flattening, in the repository view system, and we have implemented a webservice to create such compounds.

In many OO programming languages new objects are created as instances of a class. Enhanced Content Models implements this pattern. You can declare certain data objects to be templates for an enhanced content model. We have developed a webservice that can create new objects in Fedora, given a content model and a template to use as basis.

Fedora-OKI

Fedora-OKI Bridge

Status: Active

Fedora Versions: 1.1.1-1.2.1

Contributor: Tufts University Academic Technologies" Anoop Kumar anoop.kumar@tufts.edu

download

The Fedora-OKI Bridge was developed to connect an OKI-compliant application to a Fedora repository service.

- OKI-compliant software bridge for connecting to Fedora repositories
- Access Fedora 1.2.1 repositories
- Publish to Fedora 1.1.1 repositories

ARCHmedia MetaFramework

ARCHmedia MetaFramework

Status: **Active**

Fedora Versions: **2.2**

Contributor: Xtensive Tech. Thierry MICHEL <thierryATxtensiveDOTcom>

Project: Home Page

Purpose: ARCHmedia MetaFramework is high level Java framework to develop quickly and easier stand-alone and web applications for Fedora repository.

Features

- ARCHmedia MetaFramework for developing Fedora based applications
- Compliant Fedora 2.2
- High level framework
- Full object oriented
- Facilities to deal with collections
- Spring Framework based

Digital Repository Authorization Middleware Architecture (DRAMA)

Status: Active

Fedora Versions: 2.2

Contributor: DRAMA Website" [Chi Nguyen|FEDINFO:User__Chi]

download | demo

The DRAMA project aims to re-factor Fedora authorization into middleware components that can be plugged on top of an existing Fedora (2.2) deployment. It offers the following features:

- Extended XACML Engine: We extended the Sun XACML engine to utilize an XML database (DB XML from Oracle) for the policy stores. There is a web interfaces for the update and editing of the XACML policies in the database. For a given XACML request, the XACML PDP can now quickly query the database using XPATH to find the list applicable policies (<10ms to **match and evaluate** through a set of 10000 policies). Finally, XACML requests and responses can be sent as web services call to/from the PDP. These extensions to the XACML engine can be utilized by any XACML based application, not just Fedora.
- XACML PEP for Fedora: We developed Axis handlers to intercept API-A and API-M calls between the client and Fedora to enforce authorization based on XACML policies. The handlers can intercept requests perform authorization on that as well as intercept the response from Fedora and enforce authorization policies on the response back to the client. For the REST interface of Fedora, we developed servlet filters to perform the same function. Both the Axis handlers and the servlet filters utilize the same instance of the XACML engine (see above) hence a single Fedora repository can now have a consistent access control regardless of how one access it. This allows a single Fedora repository to support multiple GUI interfaces.
- Federated Authentication and Identity Management: We developed modules (DAR and ASM) that can be deployed with Fedora to enable Shibboleth (as well as local LDAP) authentication for any web GUI talking to a Fedora repository; all without the need to change any Fedora code.

Utilities

These are small applications or scripts that make running your FEDORA-based repository easier.

Batch Metadata Transform/Reload (Java)

Batch Utility

Status: Active

Fedora Versions: Fedora 2.1.x

Contributor: OhioLINK Peter Murray

download source

OhioLINK had a need to transform an XML file with a custom DTD into Dublin Core; the custom XML file is a datastream in the FEDORA repository and the goal was to put the Dublin Core XML file back into the FEDORA object as the DC datastream. This Java application (link to source code) has four main areas: reading a datastream out of the FEDORA repository using API-A, parsing XML documents using the Java DOM library, creating a new document with the correct namespaces using Java DOM, and modifying the DC datastream in the repository using API-M.

VTLS OSC

Suite of Tools and Services

Status: Unknown

Fedora Versions: 2.0 (and 2.1 soon)

Contributor: VTLS Inc._ angela@vtls.com_

download | info

VTLS Open Source Components (OSC) provides a suite of useful tools and services that integrate with Fedora repositories. These services include:

- SRU/SRW Interface
- Metadata Extraction Service via JHOVE
- Handle System Integration for Fedora
- Content Model Configuration Service
- Web Crawler Exposure Service (e.g., to Google)

Windows Service Installer

Convenience Utility

Status: Unknown

Fedora Versions: 2.1.1

Contributor: Case Western Reserve University / Kelvin Smith Library / Siva Krishnamurthy - siva@case.edu

download

The Fedora Windows Service Installer will run Fedora as a Windows Service instead of from the command line. The service does nothing more than issuing the "fedora-start" command during the Start operation, and issuing the "fedora-stop" command during the Stop operation. Once you install the service you may Start/Stop/Restart the service just as any other Windows Service. All Case Western Reserve University

.NET Connector

Interface to Microsoft .NET development platform

Status: Active

Fedora Versions: 3.2 and 3.3

Contributor: Maastricht University

download

Microsoft .NET connector for the Fedora Commons repository system. Developed by Jeroen Suijkerbuijk, commissioned and sponsored by Maastricht University Library. Much of the functionality offered by the Fedora Web Administrator available for your own .NET development project. Using this single dll, you can add, change and remove objects and streams.