PHAIDRA - FACT SHEET

Permanent Hosting, Archiving and Indexing of Digital Resources and Assets at the University of Vienna

Phaidra: maintaining information, in a correct and independently understandable form, over the long term.

A project of the University of Vienna
To make sure digital objects can be located, rendered, used and understood in the future.

A. PHAIDRA / Fact Sheet 1 - General Information

1. Summary

Title: Phaidra - Permanent Hosting, Archiving and Indexing of Digital Resources and Assets
Institution: University of Vienna
Launch Date: April 16th, 2008

Goals: Phaidra is used

- as a long-term preservation system through the assignment of persistent identifiers (*permanent links*)

- to manage and store any kind of digital object (digital born and analogue) that is developed in an academic environment: in the fields of
  a) research (e.g. articles, papers, videos, audios, containers),
  b) learning & teaching (e.g. learning objects) and
  c) administration (e.g. forms) at University of Vienna

- to make above-mentioned assets freely accessible by default (according to the wishes of the owner of the object and the therefore assigning access rights). The objects are provided with licenses.

- to provide tools to manage / view / edit the assets (e.g. e-book viewer).

Target groups: according to the digital information policy of the University of Vienna, there are three main target groups:

a) all members of the University,
b) all students of the University, guests. Detailed: researchers, lecturers, the students of the University, University management,
c) Guests / External Users: professional agencies, national institutions (cultural heritage), companies, cooperating researchers from outside University, other guests.

Context, Scenario: Phaidra provides a good frame in order to

- implement an open-access policy,
- implement e-learning strategies,
- realize better record of the University's achievements in research and teaching, and eventually
- to shape research results into collections of digital objects.

Applications: specialized tools for accessing, viewing, editing and eventually storing digital assets

2. Relevant Factors

Impact: Phaidra is expected to host all digital assets stemming from the fields of

- research,
- teaching,
- technology enhanced learning and
- management.

It offers general search functionalities covering the full range of stored assets as well as faculty and project specific areas.

Effort and Achievements:
Phaidra is an in-house project and thus fully financed by the university budget.

Phaidra Team: University of Vienna decided to top up the team of software developers by 2-3 persons to guarantee the continuous and consistent development of the system which is built on top of the open source software Fedora. Two more persons are in charge with programming / project management and customer management service.
All legal aspects have been elaborated by a respective expert. The project is supervised, supported and accompanied by an interdisciplinary advisory board.

Unique feature
The University of Vienna is currently developing an open access policy to motivate researchers to store the intellectual output of the research activities in Phaidra and grant free access to it.

Strength:

- Access rights
All persons who have a contract of employment with the University of Vienna as well as all our students are allowed to upload assets into Phaidra. Guest accounts are included and currently in use. “The world” is able to view (read-mode) and/or download the assets save the asset's owner restricts access to specific groups of people, individuals or fully hides the asset. The latter means that only the owner is able to access the object and to modify the metadata. Nobody is allowed to delete any object.

- **Terms of Use**
The *Terms of Use* stipulate the duties and the rights firstly of the service-provider (which is Phaidra) and secondly of the system's users on the other hand: E.g. usage of log files, user's commitment to correct conduct (e.g. be aware of copyright issues), allowance to delete illegal objects, security issues**.** Special terms provide regulations in case of the establishment of groups coordinated by a Super-User holding the maximum amount of rights.

- **Licensing**
A person who uploads an object must choose one of *six plus one* licenses, otherwise he/she is not able to finalize the upload process.
There are six creative commons licenses and one general license available:
Attribution 2.0 Austria
Attribution-Noncommercial 2.0 Austria
Attribution-Noncommercial-No Derivative Works 2.0 Austria
Attribution-Noncommercial-Share Alike 2.0 Austria
Attribution-No Derivative Works 2.0 Austria
Attribution-Share Alike 2.0 Austria
Finally, users have the option of not choosing any license but keeping all rights reserved.

In Quarter II/2009 users of Phaidra will be offered the software license model GNU General Public License.

- **Formats**
A document (best practice) informs users about formats that are recommended in order to achieve best permanent digital preservation.

- **Ease of Use**
Several tutorials and guidelines have been developed to support target groups to properly use the system.

- Training and dissemination work
- In addition, workshops are offered monthly to train people how to use Phaidra. Members of the Phaidra Team are also organizing regular meetings at the faculty level (“Phaidra Days”), in order to develop the dissemination effort, reach broad acceptance within the university and eventually enhance the willingness to share learning objects and other materials

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- **First-Level and Second-Level Support**
  Customer-oriented service is carried out by a Customer Manager. The Help Desk of the University has been trained for the first-level support. Second-level support is provided through the technical development team.
  The website http://phaidraservice.univie.ac.at/ additionally offers extensive information about the system and respective services.

- **Updates**
  Updates are made once a month

- **Classification of Digital Objects**
  Several subject-specific thesauri have already been implemented in order to support indexing.

3. Next Steps

The project follows a top-down as well as a bottom-up approach. Though Phaidra provides services for the whole University, development and customization are tightly aligned with the target groups' needs and requirements.

- Establish Phaidra as single point of entry to all digital assets (enhance visibility for the university's research and teaching efforts)
- Achieve integration with other software systems
- Develop additional features and services
- Implementation of open-access institutional repository (OA IR)
- Development of new features (e.g. integration of a streaming server)
- Improvement of the usability
- Interoperability with similar external repositories or systems
- Integration with the University's AAI (Authentication and Authorization Infrastructure) (Shibboleth).

References

Phaidra Fact Sheet; English Language
http://phaidra.univie.ac.at/o:25989

Technical presentation, English language
http://phaidra.univie.ac.at/o:19583

Phaidra Website
https://phaidra.univie.ac.at/
(German language)

Phaidra Service
http://phaidraservice.univie.ac.at/
(German language)

Best practice guide für Phaidra - Dateiformate mit Zukunft
https://phaidra.univie.ac.at/static/pdfs/PhaidraBestPractice.pdf
(German language)

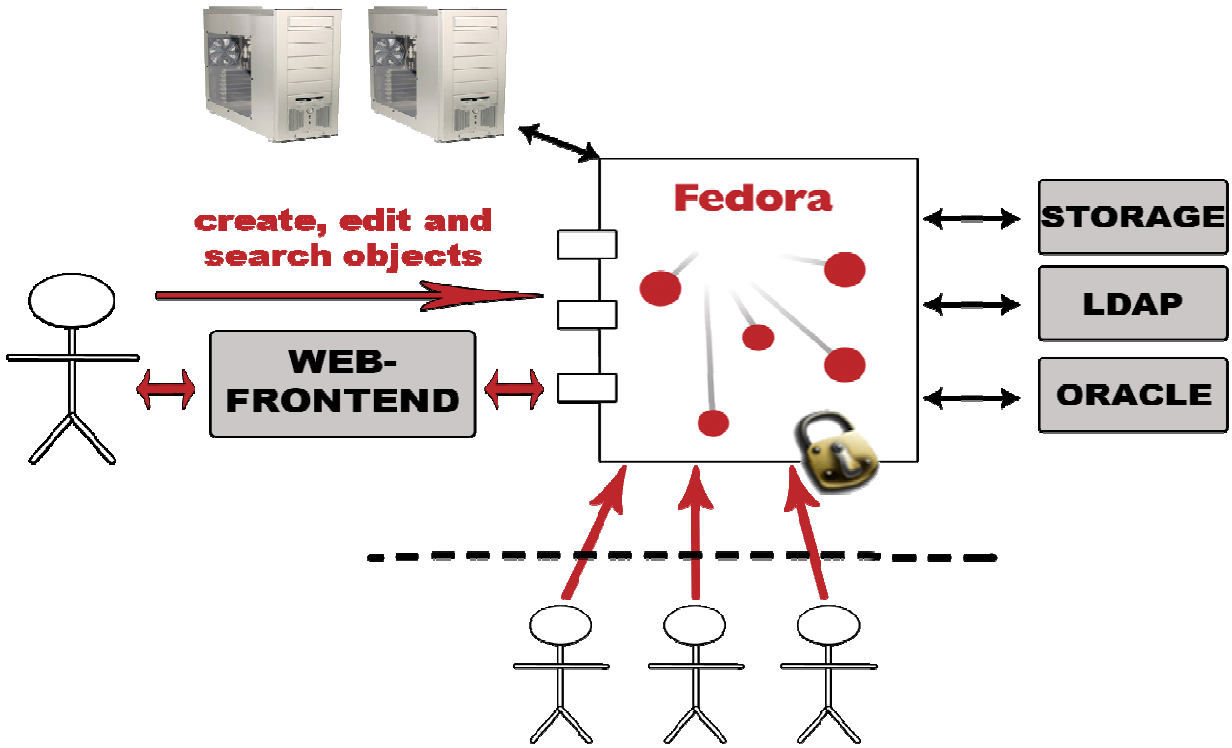
Phaidra News Digest *(Collection)*
http://phaidra.univie.ac.at/o:21966
(German language)

A. PHAIDRA / Fact Sheet 2 - Technical Information

Used technologies

- Web Frontend: mod_perl applications
- Catalyst: MVC-Framework for Perl *Model:* DBIx::Class as ORM, own Model for Fedora (Facade)
- *View:* Template::Toolkit
- Fedora 3.1 at Red Hat Enterprise Linux 5, Tomcat 5.5.20, Apache 2.2.3 as Frontend Server
- Databases: Oracle 10 & MySQL 5.0.32, optional, required by our architecture

Architecture



Security

- Authentification over LDAP: differs between staff, students, external (soon use of Shibboleth)
- Authorization over XACML: who is allowed to use which API-(A|M)-functions under which terms?
- Phaidra: all users are allowed to use (certain) API-(A|M)-functions, not only admins. XACML not sufficient!

Phaidra Core

- APIs for Perl and Java
- Abilities to search: Full-text, Metadata, “Google Search”, Browse (Lucene)
- User-Interface: fully localized in German; usability very important
- Persistent Unicode (UTF-8)
- Rights management: allocation of rights for single user, user groups, departments, faculties.
- Rights can expire!
- Version-management: in data stream; also available in “external view”

Metadata schema

- Modified LOM Schema
- Faculties are able to save own metadata to their objects
- Different classification databases to classify the object (ÖFOS, GETTY, PACS, EuroVoc, ACM, ...)
- XML data stream is saved to every object
- DC is generated by machine

Content models

Object groups:

Single File	1 Content DS: picture, document, audio, ...
Collection	No content but members in RELS-EXT DS
Container	Multiple-content datastreams

Object types:

Picture,
Document,
Audio,
Video,
Resource,
Book,
Page,
Container,
Collection

Design of a typical Phaidra object:

DC	
POLICY	
RELS-EXT	
OCTETS	Bdef: Asset
UWMETADATA	Bdef: ImageManip
RIGHTS	
STYLESHEET	
THUMBNAIL	

Supported formats

	recommended	*possible*	*not recommended*
picture	.tiff	.jpg	.psd, .gif. .png, .psd,…
audio	.wav	.mp3	.wma, .aac, .ogg
video	.avi, .mpeg.2		.wmf, .flv, .mov, …
documents	.pdf, tei	.tex, .html	.doc, .ppt, .indd, .qxd

Book-Viewer

- Vienna University Library import of “E-Books on Demand” into Phaidra
- All pages either in TIFF or JPG, whole book in PDF
- If available OCR data is also included
- With the help of Phaidra Book Viewer the User is able to view the E-Book and scroll it in a browser
- Main functions: stepless zoom, navigation through the book, full-screen view, download pages in JPG or PDF, ...
- Communication with Fedora over AJAX
- Search and highlighting of words or phrases is supported if OCR is available