

Learning Object Repository Scenarios

Overview

Requirements

- easy to use
 - web integration: find, preview, download
 - desktop integration: edit, upload, download
 - simple metadata schema, semi-automatic metadata generation
- can serve as backup
- can serve as multi-autors development system
 - file locking, conflict resolution
- versioning support
 - for developers
 - for students/teachers in case of exam disputes

| Type | Description | Examples | Things to be developed |
|---------------------------------------|---|--|---|
| Learning Object Repository System | Specialized database system with extensions to particularly support storing, tagging and retrieving of learning objects. | <ul style="list-style-type: none"> • Ariadne • COL LOR | <ul style="list-style-type: none"> • usability • simple web based interface |
| Learning Object Repository Federation | Federation of institutions that jointly develops and hosts a Learning Object Repository System. | <ul style="list-style-type: none"> • Merlot • Careo | <ul style="list-style-type: none"> • customization of interfaces |
| Web Content Management System | Standard Web-CMS with customizations/extensions to add metadata, and to retrieve learning objects. | <ul style="list-style-type: none"> • Drupal • Typo3 | <ul style="list-style-type: none"> • metadata • search |
| File Version Control System | Internet file storage system with versioning and multi-author support. Extensions are needed to add metadata, and to retrieve learning objects. | <ul style="list-style-type: none"> • CVS • Subversion | <ul style="list-style-type: none"> • metadata • search • presentation/distribution |

Things to be developed in all systems

- AAI integration
- Import/Export interfaces with LMS
- Peer- or expert-reviewing system. Rewarding system.

Learning Object Repository System

LOR Systems are specifically designed to tag, store and retrieve learning objects. Out-of-the-box they fully support metadata standards like IMS LOM. A workflow is defined between authors and reviewers to guarantee quality of repository contents.

The user interface is mainly web based.

Pros

- most of the required functions are available out-of-the-box

Cons

- Although LOR Systems are on the market for a long time, they haven't really been widely adopted. This is an indicator that the concept of LOR Systems does not satisfy the needs of higher education institutions. In particular, LOR Systems have been criticized to be too difficult to use and still not being very useful.

Learning Object Repository Federation

LOR Federations are joint projects of higher education institutions to develop and host a LOR system. The institutions are also contributing and reusing content, and they peer-review the submitted learning objects. The underlying LOR system does not necessarily store the learning content itself. It might just link to an external website and describe it in its metadata.

The user interface is mainly web based.

Pros

- most of the required functions are available out-of-the-box. Existing LOR Federations like Merlot have proved to be popular among course developers.
- no need to set up a server
- no need to develop, organize and animate a community of course developers
- the repository already contains a critical mass of reusable learning objects

Cons

- Existing LOR Federation concepts or profiles are difficult to adapt
- difficult (impossible?) to customize the technical architecture, interfaces and look-and-feel

Web Content Management System

The purpose of web CMS is to develop, maintain and manage complex web sites. Development workflows and access rights can be precisely controlled for multiple editors.

The user interface is mainly web based.

Pros

- the web interface, in particular the look-and-feel is fully customizable
- can be used as authoring system, with multiple authors
- many flexible systems available with active developer communities

Cons

- authoring/editing tools cannot be customized to satisfy all users
- difficult to integrate locally installed content editors
- need to develop metadata, search, browse tools
- requires training for authors

File Version Control System

The purpose of a version control system is to store files of any kind of project and make it accessible to multiple authors. There is a conflict resolution system if authors are working on the same part of the project. An automatic versioning system allows anytime to restore any previous project state.

The main user interface is on the file system level (i.e. explorer extension) and only partly web based.

Pros

- is already useful out-of-the-box, without any extension/customizations
- useful for all kinds of projects, not only elearning
- compatible with any locally installed content editor
- fully fledged versioning system for multiple authors

Cons

- need to develop metadata, search, browse tools
- need to develop web interface
- no development workflow

[R. Brugger, edutech, May '05]