

DSpace@MIT Versioning Feature Summary

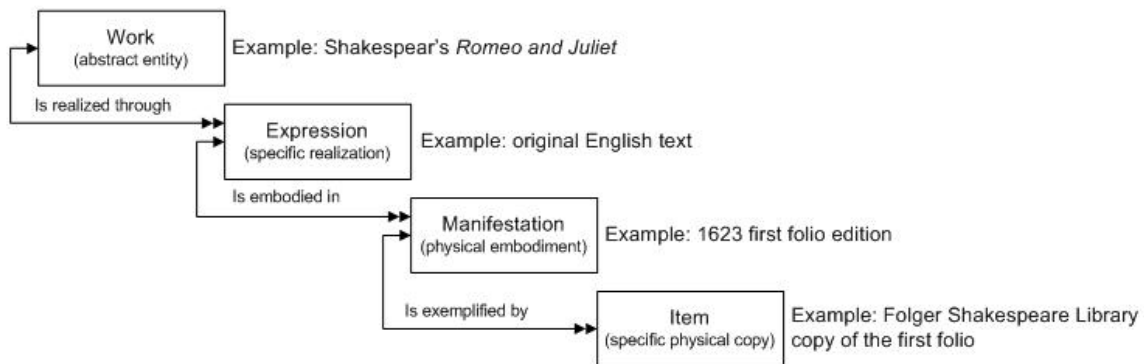
July 19, 2004

Purpose: We are increasingly being asked to support multiple versions of documents in DSpace, either to replace the earlier version or in addition to it. DSpace is a historical archive, so as a policy the Libraries don't allow depositors to remove items, but they can ask for them to be logically withdrawn (i.e. removed from display and unindexed, but with the Handle still resolving to the item record and the metadata still displayed). In the case where a depositor submits a newer version of an item, what mechanism should DSpace implement to show the multiple versions, and the relationship between them?

Discussion

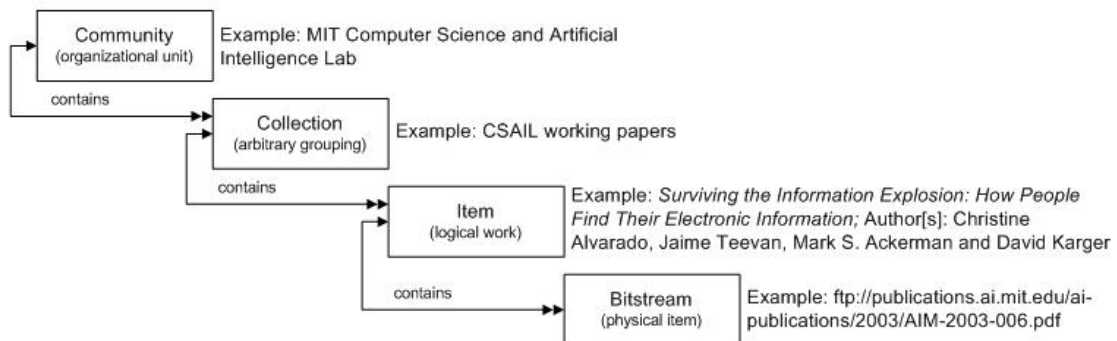
First we discussed the relationship between DSpace information model and the FRBR ER model (<http://www.ifla.org/VII/s13/frbr/frbr.pdf>). FRBR specifies a four-level hierarchy of content:

FRBR Information Model



In contrast, the DSpace information model is based on a different four-level hierarchy of content:

Dspace Information Model

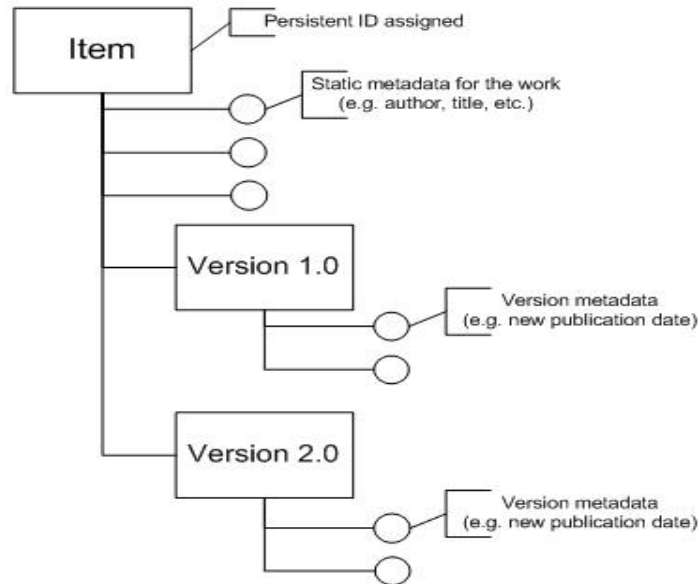


In the DSpace model, the FRBR work, expression, and manifestation entities are rolled up into the single "Item" entity, and the FRBR item entity is represented by the DSpace

Bitstream entity [this suggests a possible naming problem, but in many ways the DSpace names are clearer for the particular case of digital content].

We also discussed the new JSR170 versioning model, but DSpace won't really accommodate this method of relating versions in its current rdbms schema, so we need another way of handling version relationships in the short-term.

JSR 170 versioning model



DSpace decisions

- A separate DSpace *item* should be created for each distinct version of a work (i.e. FRBR *expression*) because some metadata (e.g. publication date) will vary with each version.
- Each version of an item should be linked to its successor/predecessor version using metadata in the DC relation field (e.g. replaces/is-replaced-by, or hasversion/isbasedon). A note for the relationship and a link to the previous/next version should be displayed on the item record.
- A new option should be added to the first submission screen to ask if an earlier version has already been deposited in DSpace. [NOTE: this should email the system administrator so that they can create or approve the links between the items as part of the submission workflow, to make sure that gets done.
- The original version of the item should be *unindexed* so that access is only available via the Handle (NOTE: this is similar to *withdrawn* items, but the metadata still displays).

This solution allows institutions to define POLICY for whether or not to allow depositors to request *withdrawal* of earlier versions of the content, as opposed to allowing access to all versions. This assumes that metadata for all versions will display (whether or not its indexed), and that all Handles continue to resolve to the appropriate item record.

A picture of how this might look in DSpace:

1. Original DSpace item

Title: Has a customer already developed your next product?
Authors: Hippel, Eric von.
Issue Date: 1976
Publisher: MIT Alfred P. Sloan School of Management
Series/Report no.: Working paper (Sloan School of Management) ; 865-76.
Description: Bibliography: leaf 19.
URI: <http://hdl.handle.net/1721.1/1912>
Appears in Collections: Sloan Working Papers

Files in This Item:

File	Size	Format
SWP-0865-02506929.pdf	1076Kb	Adobe PDF View/Open

2. New version of item in DSpace

Title: Has a customer already developed your next product?
Authors: Hippel, Eric von.
Issue Date: 2004
Publisher: MIT Alfred P. Sloan School of Management
Series/Report no.: MIT Sloan School of Management Working Paper;4234-01
URI: <http://hdl.handle.net/1721.1/1913>
Earlier version available at URI: <http://hdl.handle.net/1721.1/1912>
Appears in Collections: Sloan Working Papers

Files in This Item:

File	Size	Format
SWP-4234-012345678.pdf	2034Kb	Adobe PDF View/Open

3. Updated original DSpace item

Title: Has a customer already developed your next product?
Authors: Hippel, Eric von.
Issue Date: 1976
Publisher: MIT Alfred P. Sloan School of Management
Series/Report no.: Working paper (Sloan School of Management) ; 865-76.
Description: Bibliography: leaf 19.
URI: <http://hdl.handle.net/1721.1/1912>
Appears in Collections: Sloan Working Papers

Files in This Item:

Item Withdrawn

The item you are trying to access has been withdrawn from DSpace. A newer version of this paper is now available at URI: <http://hdl.handle.net/1721.1/1913>. If you have any questions, please contact the administrators.

Note on DSpace Version 2.0

The introduction of METS AIPs in the new DSpace 2.0 architecture will introduce a new level of record-keeping and provenance tracking, in which metadata versioning will also be a question (as opposed to just content versioning and accommodating some version-specific metadata). We need to think carefully about how to implement this in the area of fixing typos and other inconsequential changes vs. important/significant metadata changes that effect access, authenticity, etc.