

Design - Ordered Lists

(See [here](#) for the current location of conversations about ordering. 17 August 2016)

This article summarizes some requirements and proposed solutions for handling ordered lists in Fedora.

Previous discussions

[2014-10-02 - Fedora Committer Meeting](#)

[2014-10-09 - Fedora Committer Meeting](#)

[2014-10-16 - Fedora Committer Meeting](#)

The issue

There is no standardized way in Fedora to present a list of nodes in an arbitrary order defined by the user and stored in a dedicated property.

[Michael Durbin](#), [Unknown User \(escowles@ucsd.edu\)](#), [Stefano Cossu](#) brought up the issue and expressed interest

Possible solutions

- Using [MPPT/Nested Sets](#)
 - + Flexible
 - + Commonly used in relational database design
 - - Complicated and maybe redundant in functionality
 - - Slow updating nodes
- Using [Ordered List Ontology](#)
 - + Basic but effective
 - + Uses RDF syntax that can be more easily integrated in Fedora

Given the pros and cons, OLO seems to be a better fit. Implementation proposal below applies to the OLO solution.

Proposed implementation

The plan I am proposing here is to add some CND definitions that allow content creators to identify a node as a list or a list slot.

A draft CND is available here: <https://github.com/aic-collections/aicdams-lake/blob/test-ontology/fcrepo-webapp/src/aic/resources/cnd/aic-lists.cnd>

This file contains definitions for `olo:OrderedLists`, `olo:Slots` (elements ordered in a list) and `aiclist:Items` (nodes that can be referenced in a list - this is optional).

Fedora should do two things behind the scene:

1. Infer some properties for `olo:OrderedList` and `olo:Slot` nodes - such as `olo:prev`, `olo:next` etc (see @TODO comments in CND draft).
 - `olo:index` can be user-provided or automated, e.g. if a Slot is added to a List without an index, Fedora assigns it the highest `olo:index` value in the list; or if `olo:index` is updated for a `olo:Slot`, all the other slots are update to ensure a consistent indexing.
 - Either `olo:ordered_list` in a Slot can be inferred from `olo:slot` values in a `OrderedList`, or the other way around. This CND assumes the first scenario.
2. Provide a presentation mechanism that returns nodes in a list ordered by `olo:index` value. This is only applicable to certain output types such as JSON or XML.