

Hierarchical Metadata Support - LOM and MODS

Introduction

I decided to use DSpace in Young Digital Planet to store assets we use in our educational materials. Neither DC nor DC Terms is suitable for our metadata. We have to use LOM and deal with its hierarchical structure as I see currently DSpace supports only flat schemas. I've noticed "Hierarchical Metadata Support" is on your road map as "Candidate Features for DSpace 7.0 - Priority 2". As it's very important use case for us, we'd like to work on this feature now.

Why do you feel this will help DSpace Software or our Community as a whole?

Support for LOM and MODS make that functionality DSpace significantly expand. We will be open for new standards.

What problem(s)/issue(s) are you trying to solve?

Use LOM matadata in DSpace

Solution Architecture

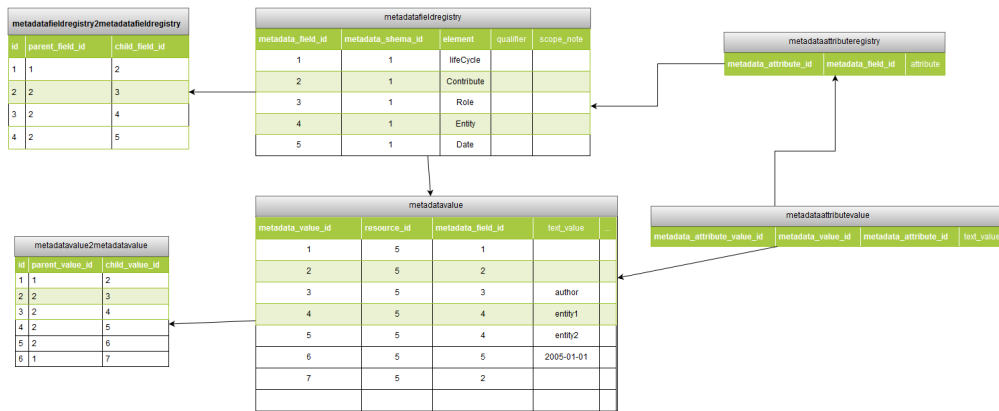
Idea to solve this problem is to add hierarchical information to both metadatafieldregistry and metadatavalue tables - it resolve LOM issue. Also we have to create two new tables metadataattributeregistry and metadataattributevalue to support MODS. Simple Adjacency List Model would be sufficient, as metadata trees won't be very high.

Here's an example for LOM

section of the file:

```
<lifeCycle>
  <Contribute>
    <Role>
      <string>
        author
      </string>
    </Role>
    <Entity>
      <string>
        entity1
      </string>
    </Entity>
    <Entity>
      <string>
        entity2
      </string>
    </Entity>
    <Date>
      <string>
        2005-01-01
      </string>
    </Date>
  </Contribute>
  <Contribute>
    ....
  </Contribute>
</lifeCycle>
```

Solution:



Here's an example for MODS

section of the file:

```
<name type="personal">
  <namePart>Alleman, Tillie Pierce [1848-1914]</namePart>
  <role>
    <roleTerm type="code" authority="marcrelator">aut</roleTerm>
    <roleTerm type="text" authority="marcrelator">Author</roleTerm>
  </role>
</name>
```

Solution:



I'm new in DSpace topic but I see that I have to make changes in following areas:

1. dspace-api
2. dspace-rest
3. dspace solr configuration

Question

There are many details lacking in our solution description, but for now, we'd like to hear your opinion: Am I going in the right direction?

I have also other questions:

1. Do I mention all areas of change?
2. Should I create separate schema for each category of LOM (general, technical, etc like dc and dcterms) or one big LOM schema?
3. In what areas I can come across difficulties?
4. Is there any other option to use LOM in DSpace without touching database structure?
5. Do we need column "qualifier" in table "metadataFieldRegistry" in this approach?
6. We want to deploy DSpace on production in our company in March 2016. What version of DSpace you recommend to use? 5.x or 6?

Attachments

[design example src.xml.xml](#) - editable file for <https://www.draw.io/>