SYLI

An external workflow system for DSpace

Samu Viita & Janne Pietarila

Open Repositories 2014, Helsinki. 13. June 2014

Structure of the presentation

1. What it SYLI
2. Motivation
3. Features
4. Demo
5. Tech

What is SYLI

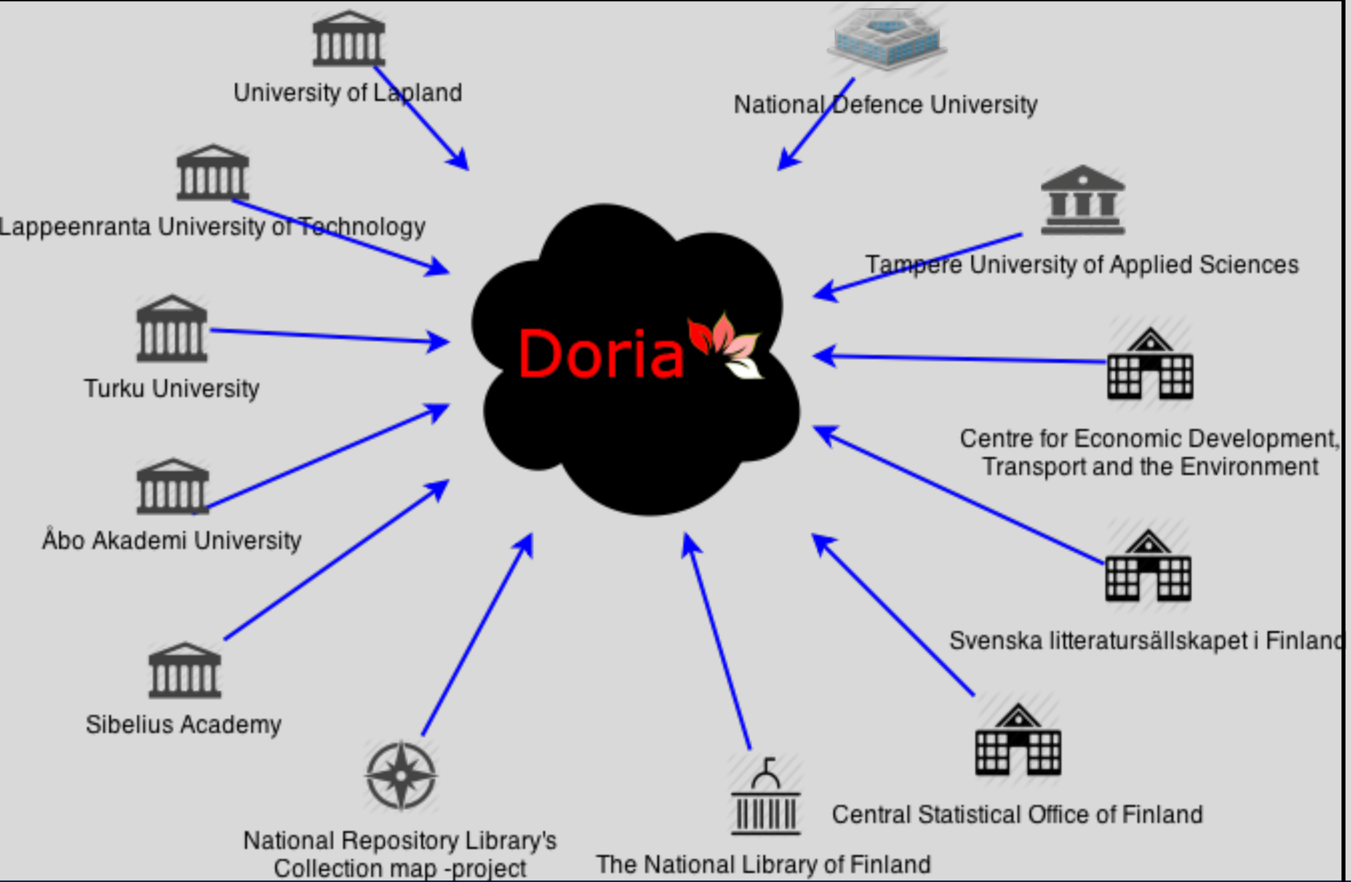
- External tool for librarians to manage submission, workflow and collections in DSpace
- Especially useful in shared repositories (=one DSpace instance is used by several organizations)
- Has its own user and workflow database and connects to DSpace via SimpleREST interface

Motivation

Motivation to implement SYLI

- National Library of Finland hosts DSpace based repositories for over 40 public organizations
- Organizations have **diverse needs especially in submission processes**
- These needs are hard to fulfil with DSpace build in features

Shared repository Doria



University of Lapland

National Defence University

Lappeenranta University of Technology

Tampere University of Applied Sciences

Turku University

Centre for Economic Development, Transport and the Environment

Åbo Akademi University

Svenska litteratursällskapet i Finland

Sibelius Academy

National Repository Library's Collection map -project

The National Library of Finland

Central Statistical Office of Finland

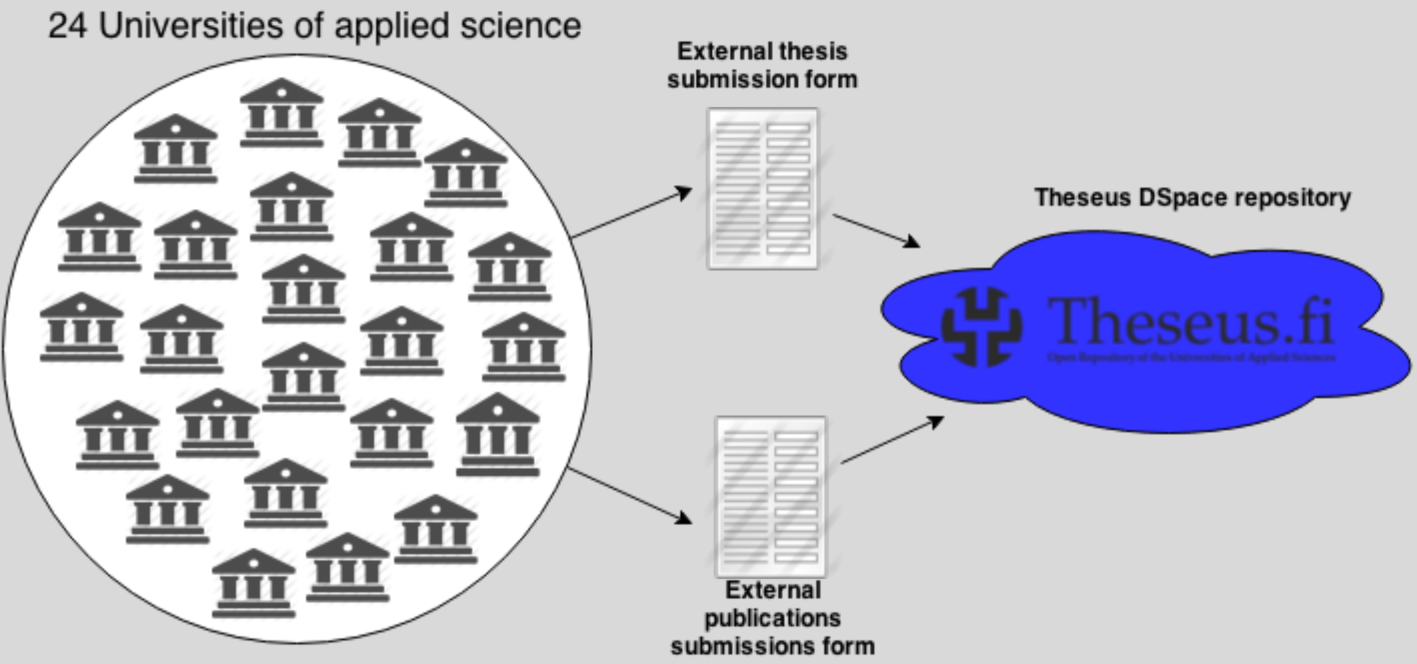
Doria repository contains almost 70 000 items:

- Theses
- Scientific publications
- Digitized heritage materials:
  - Books
  - Images
  - Maps
  - Audio
  - Sheet music
- Reports
- Catalogs

Problems in Doria

- Community admin role offered by DSpace is not enough
  - Cannot access user management features -> need help from the main administrators (us)
  - Cannot add field to metadata registry -> need help…
  - Cannot define submission forms by themselves -> need help...
- Problems with workflows: Defined in every collection explicitly, no inheritance from the upper level

Shared repository Theseus



24 Universities of applied science

External thesis submission form

External publications submissions form

Theseus DSpace repository

Theseus contains over 70 000 full text items, mostly thesis

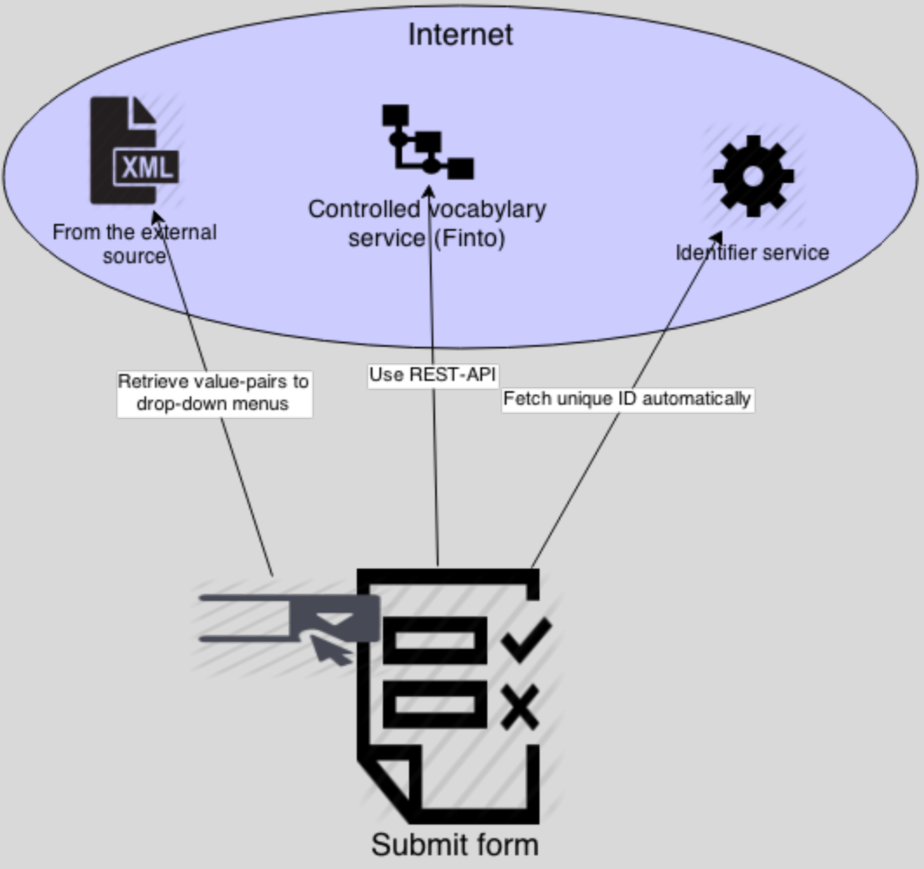
- Same submission process and metadata for all organizations
- Thesis submitter use input form once in a lifetime
- Heavily tailored, external input form
- Over 200 submissions per day in rush seasons

Problems in Theseus

- Local librarians still use DSpace tools and need help in many situations like when new collection is added
- Workflow doesn’t include edit metadata step since it doesn’t support multilingual metadata (e.g. description.abstract fi)
  - Has to edit item after it has been published
- External input form is not easily customizable or utilizable in other situations

...so we decided to do generic external submission and workflow system for dspace based on our customers needs...

Commonly needed features - requirements for SYLI


Internet
XML
From the external source
Controlled vocabylary service (Finto)
Identifier service
Retrieve value-pairs to drop-down menus
Use REST-API
Fetch unique ID automatically
Submit form

- Input form configuration improvements
  - Support for multilingual metadata:
    - e.g. description.abstract (fi, sv, en)
  - Input form definition improvements:
  - Copy fields: e.g. dc.contributor -> dc.publisher
  - Define constant fields
  - Licence definitions
  - Localization of input instructions and hints
  - Automatically adds metadata field to metadata registry, if field is missing
  - No need to restart DSpace when new input definition is made
- No community-collection separation, just collections
- Inheritable role and workflow definitions at any level in collection tree

Syli features

Syli input forms

- Defined with custom XML format
- Format inspired by DSpace input_forms.xml
  - Introduces new tags to implement new features
  - Includes localisation

Input forms XML: <field>

```
<field>
        <schema>dc</schema><element>description</element><qualifier>abstract</qualifier>
        <label>description_abstract_KEY</label>
        <multiple>true</multiple>               true | false
        <required>false</required>              true | false
        <input_type>text</input_type>           line | text | personname | title | dropdown |
                                                date | onki_ysa | onki_puho | onki_afo | onki_tero
        <language>*</language>                  * | - | <language code>
        <hint>description_abstract_hint_KEY</hint>
</field>
```

Input forms XML: dropdown

```
<field>
        <schema>dc</schema><element>contributor</element><qualifier>other</qualifier>
        <label>contributor_other_KEY</label>
        <multiple>true</multiple>
        <required>false</required>
        <input_type value_pairs_name=“contributor”>dropdown</input_type>
        <language>*</language>
        <hint>contributor_other_hint_KEY</hint>
</field>
```

Input forms XML: dropdown

```
<field>
        <schema>dc</schema><element>contributor</element><qualifier>other</qualifier>
        <label>contributor_other_KEY</label>
        <multiple>true</multiple>
        <required>false</required>
        <input_type value_pairs_source=“http://example.com/contributor.xml”>dropdown</input_type>
        <language>*</language>
        <hint>contributor_other_hint_KEY</hint>
</field>
```

Input forms XML: <copy_field>

```
<copy_field>
      <from>
            <schema>dc</schema><element>organization</element><qualifier></qualifier>
      </from>
      <to>
            <schema>dc</schema><element>publisher</element><qualifier></qualifier>
      </to>
</copy_field>
```

Input forms XML: <constant_field>

```
<constant_field>
      <value>Our publishing company</value>
      <to>
            <schema>dc</schema><element>publisher</element><qualifier></qualifier>
      </to>
</constant_field>
```

Input forms XML: <fetch_field>

```
<fetch_field>
      <from>http://urnsource-kk.lib.helsinki.fi/cgi-bin/urn_generator.cgi?type=nbn</from>
      <to>
            <schema>dc</schema><element>identifier</element><qualifier>urn</qualifier>
      </to>
</fetch_field>
```

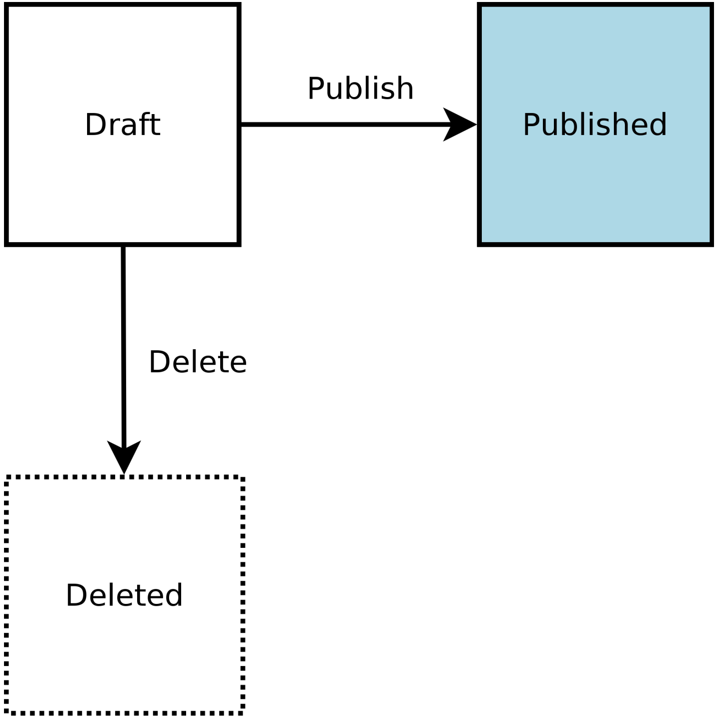
Input forms XML: <attr_field>

```
<attr_field>
      <schema>dc</schema><element>programme</element><qualifier></qualifier>
      <up>0</up>                                  top | <non negative integer>
      <attr>short_description</attr>
</attr_field>
```

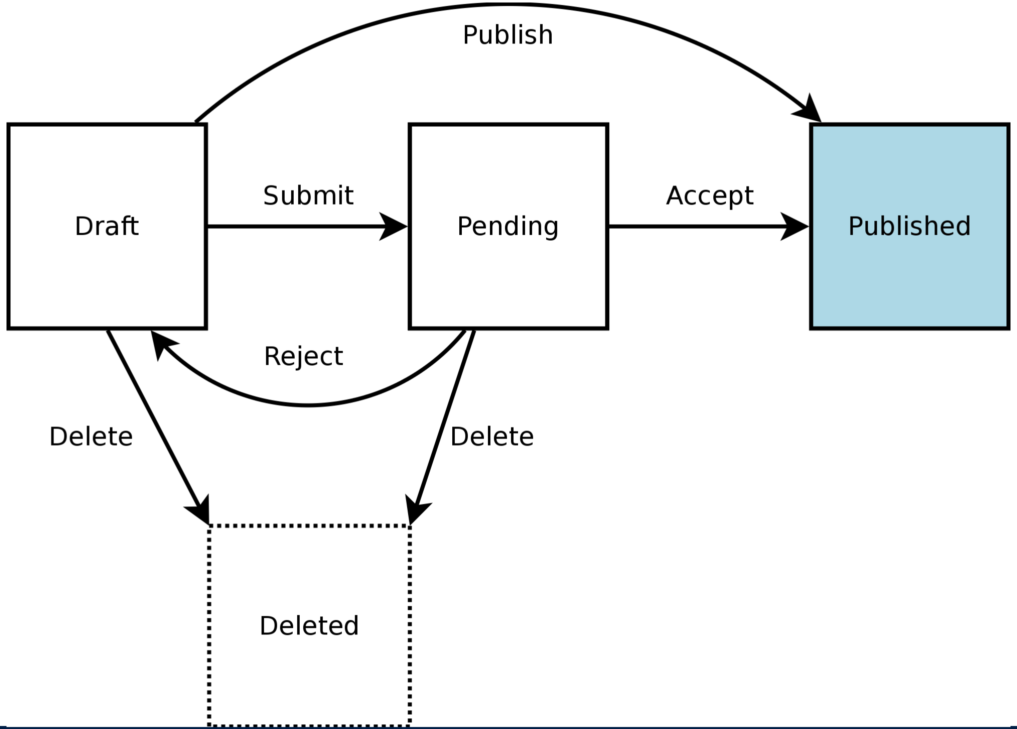
Roles

- Anonymous
- Member
- Editor
- Administrator

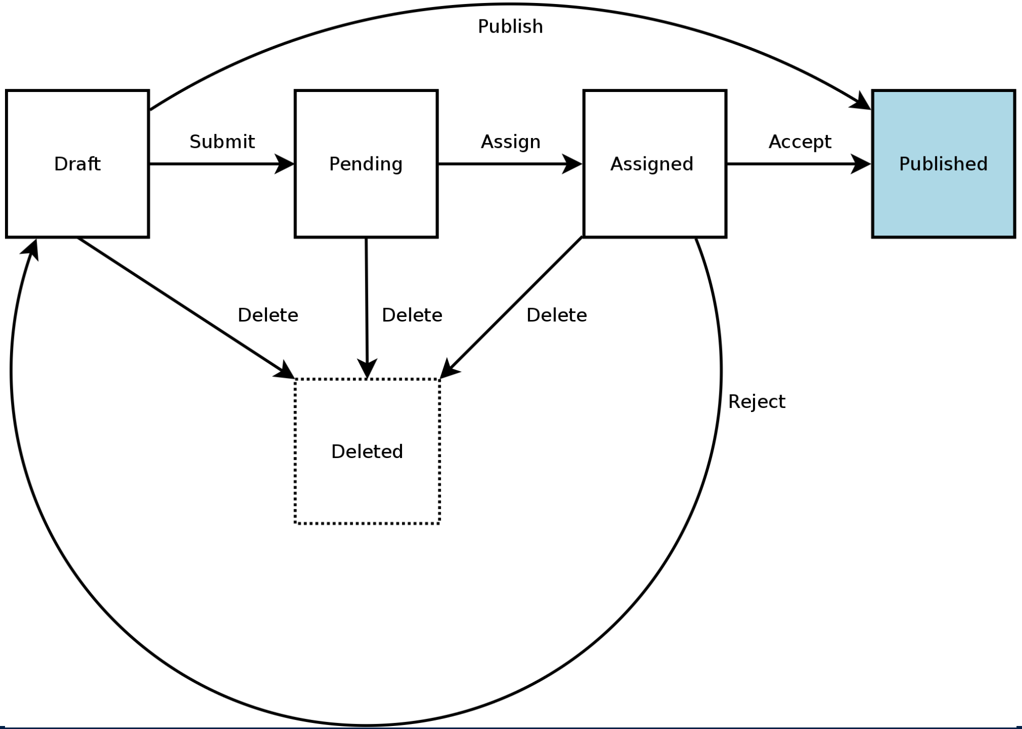
Workflow: simple

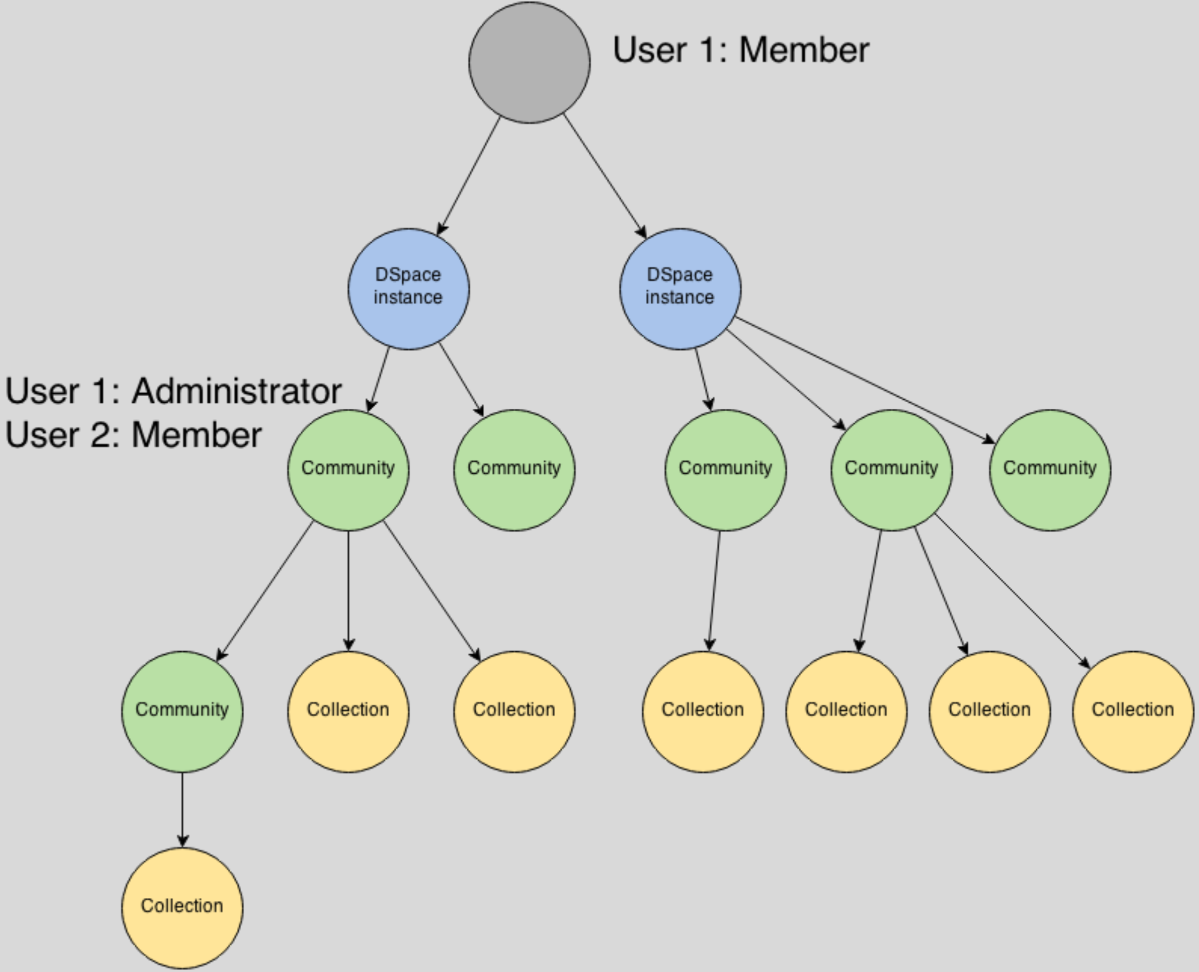


Workflow: normal



Workflow: complex




User 1: Member
DSpace instance
DSpace instance
User 1: Administrator
User 2: Member
Community
Community
Community
Community
Community
Community
Collection
Collection
Collection
Collection
Collection
Collection
Collection
Collection

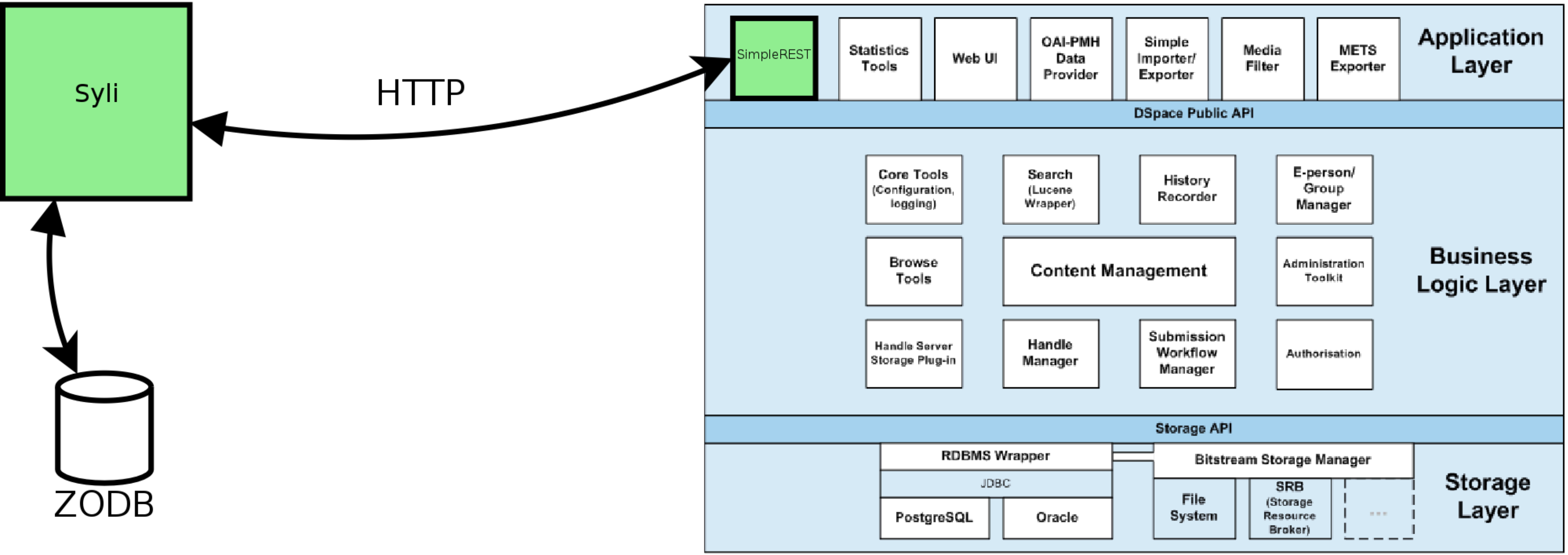
Demo

Tech

Syli is implemented using:

- Python
- Grok (based on Zope)

Overview


Syli
HTTP
ZODB
SimpleREST
Statistics Tools
Web UI
OAI-PMH Data Provider
Simple Importer/ Exporter
Media Filter
METS Exporter
Application Layer
DSpace Public API
Core Tools (Configuration, logging)
Search (Lucene Wrapper)
History Recorder
E-person/ Group Manager
Browse Tools
Content Management
Administration Toolkit
Business Logic Layer
Handle Server Storage Plug-in
Handle Manager
Submission Workflow Manager
Authorisation
Storage API
RDBMS Wrapper
JDBC
PostgreSQL
Oracle
Bitstream Storage Manager
File System
SRB (Storage Resource Broker)
...
Storage Layer

SimpleREST resource URLs (1 / 2)

/rootcommunities

/community/{communityId}

/community/{communityId}/logo

/community/{communityId}/communities

/community/{communityId}/collections

/collection/{collectionId}

/collection/{collectionId}/logo

/collection/{collectionId}/items

SimpleREST resource URLs (2 / 2)

/item/{itemId}

/bundle/{bundleId}

/bitstream/{bitstreamIdDotFormat}

/metadataschemas

/metadataschema/{metadataSchemaId}

/metadatafields

/metadatafield/{metadataFieldId}

SimpleREST code

https://github.com/anis-moubarik/SimpleREST

(Syli code is still located in our local version control system, but it will be published in GitHub.)

Thank you!

Contact information:

samu.viita@helsinki.fi

janne.pietarila@helsinki.fi