RZ Information System Meeting

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1.1 What is Fedora Commons?

- Fedora stands for *Flexible Extensible Digital Object Repository*.
- Fedora is a general-purpose, open-source digital object repository system.
- Java based conceptual framework using a set of abstractions about digital information to provide the basis for software systems that can manage digital information.
- The Fedora software distributed by Duraspace (http://www.duraspace.org) is available from http://fedora-commons.org under the terms of the Apache License, version 2.0.

1.2 Key Features [1/3]

- Store all types of content and its metadata
- Scale to millions of objects
- Access to data via Web APIs (REST/SOAP)
- Provides RDF based Resource Index search
- Rebuilder Utility (for disaster recovery and data migration)
- The entire repository can be rebuilt from the digital object and content files.

1.2 Key Features [2/3]

- Content Model Architecture (define "types" of objects by their content)
- Many storage options (database and file systems)
- JMS messaging provider (your apps can "listen" to repository events)
- OAI-PMH Provider Service

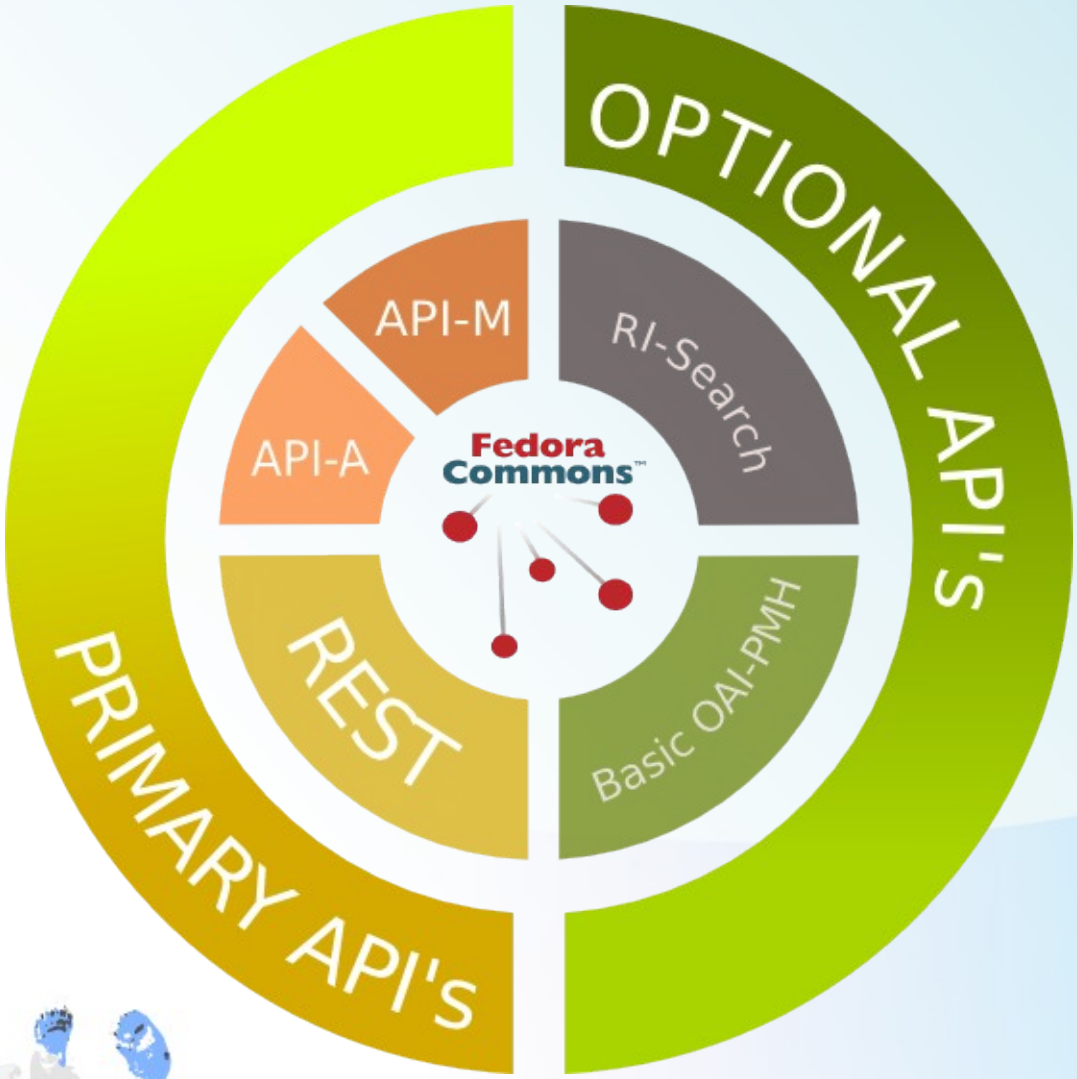
1.2 Disadvantages [3/3]

- Front-end Adaptation

  https://wiki.duraspace.org/display/DEV/Fedora+Tools
- Object Store Scalability Strategy

  https://wiki.duraspace.org/display/AKUBRA/Akubra+Project

1.3 Web Service Interface

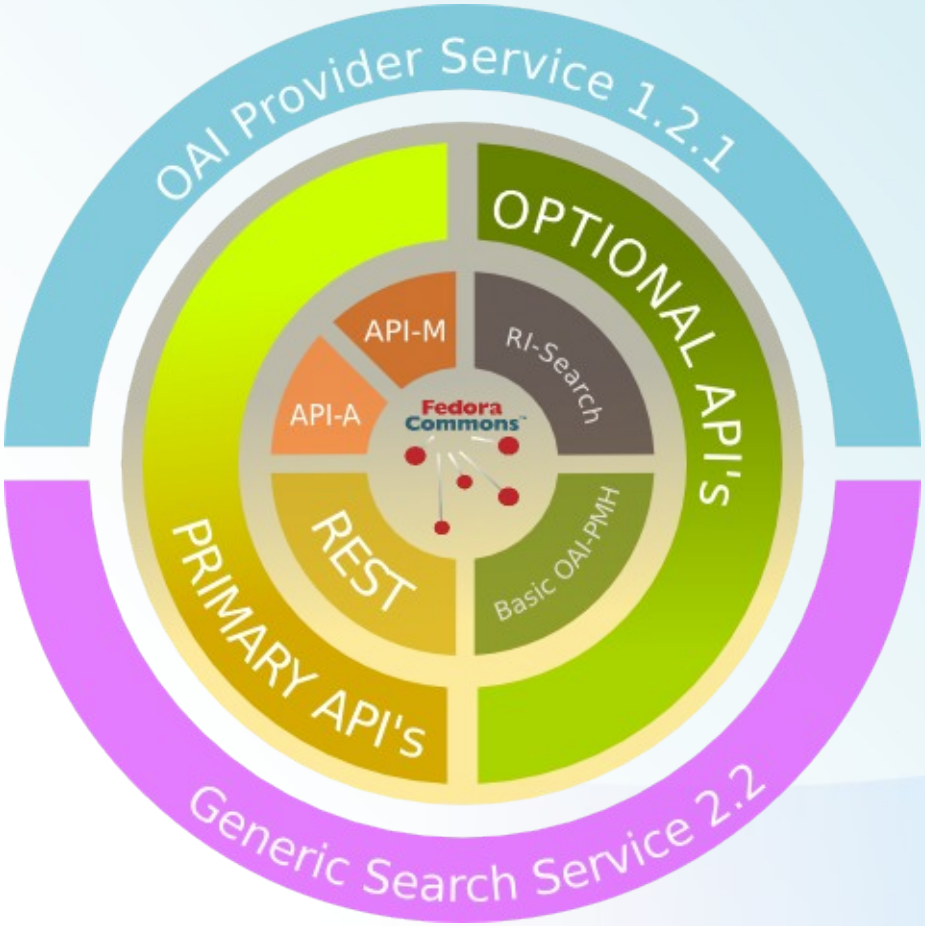


- **Primary API's**

  Allow the creation, reading, modification, and deletion of Fedora digital objects.

- **Optional API's**
  - Basic OAI-PMH
  - RI-Search

1.4 Framework Services



- Generic Search Service
- OAI Provider Service

1.5 Who uses Fedora Commons in .de?

1- eSciDoc - The Open Source e-Research Environment
https://www.escidoc.org

FIZ Karlsruhe
Leibniz Institute for Information Infrastructure

MAX-PLANCK-GESELLSCHAFT

2- Fedora-IRODS Integration als Grid Repository (in development)
http://www.wissgrid.de/publikationen/deliverables/wp3_de.html

WissGrid

NIEDERSÄCHSISCHE STAATS- UND UNIVERSITÄTSBIBLIOTHEK GÖTTINGEN

WissGrid

2. Federico

2.1. What is Federico?

2.2. System Requirements

2.3. Content Model

2.4. Architecture

2.5. Future Plans

2.1 What is Federico?

- Fedora-Enabled Repository with Cocoon
- AJAX-based frontend for a C3Grid local repository of metadata
- Transparent Integration of Fedora with the Framework Services GSearch and OAI Provider
- Developed in the scope of the work package #3, Long-term Preservation of Digital Archives of Wissgrid, sponsored by the German Federal Ministry of Education and Research

2.2 System Requirements [1/2]

Hardware

- PC with a 1 gigahertz (GHz) processor or faster and network card
- 2 GB RAM
- 800 MB free disk space for the installation

Software

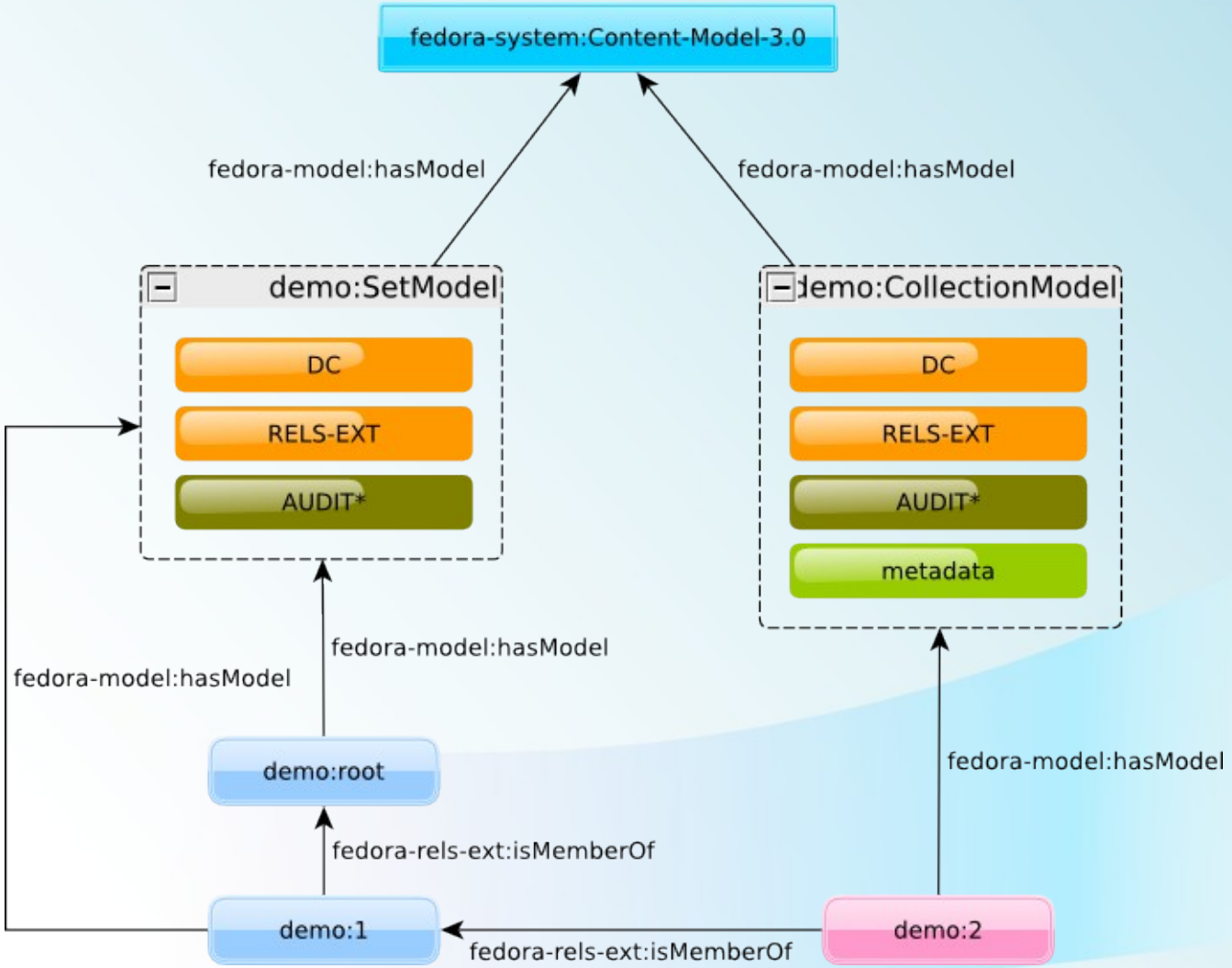
- Linux Distribution with X Window System
- Java JDK 1.6
- 3 MySQL Databases for Fedora Commons, Fedora OAI Provider, and openID accounts

2.2 System Requirements [2/2]

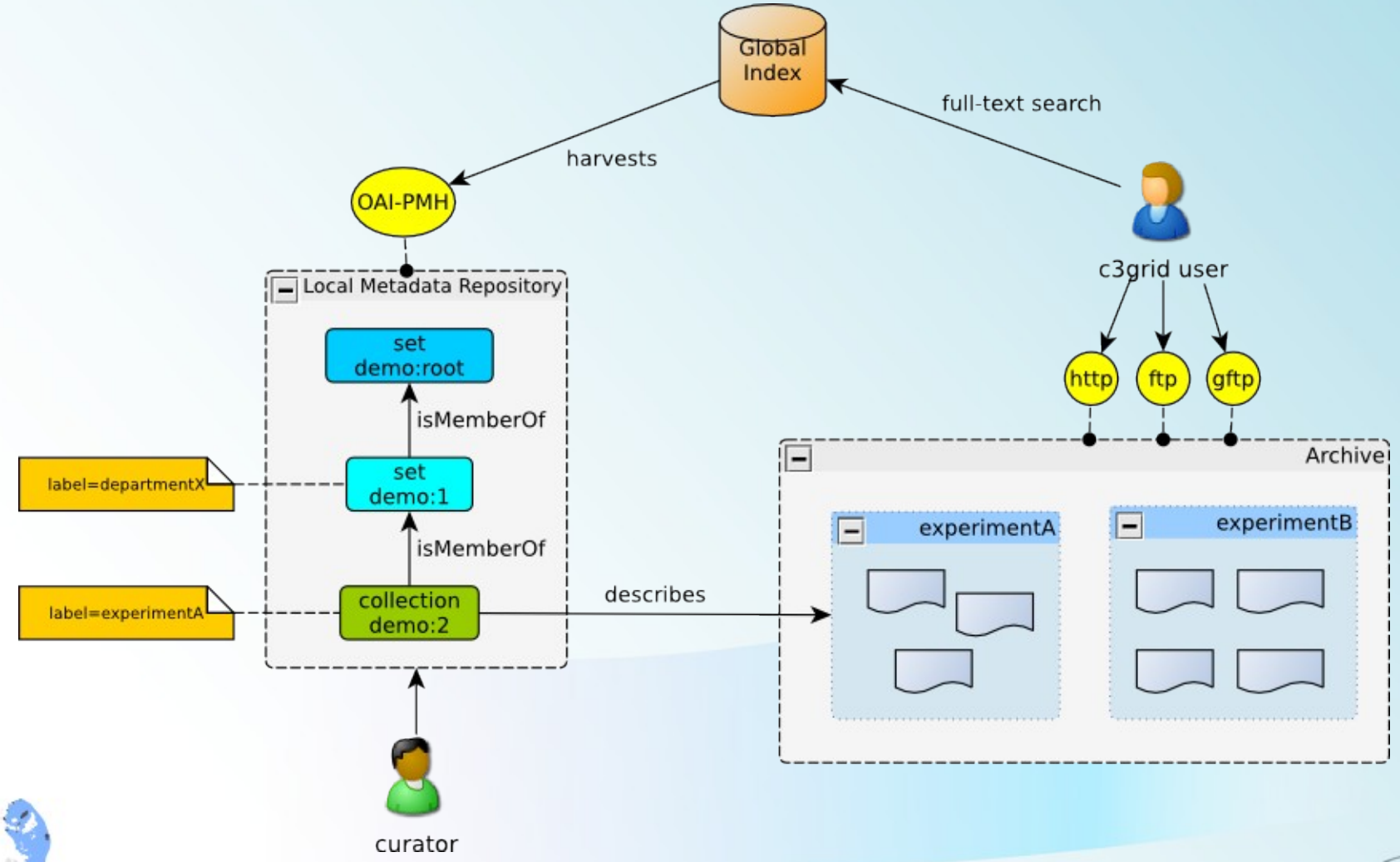
User

- PC with graphical interface and network card
- Keyboard and mouse
- Browser (preferably Mozilla Firefox) with Javascript enabled

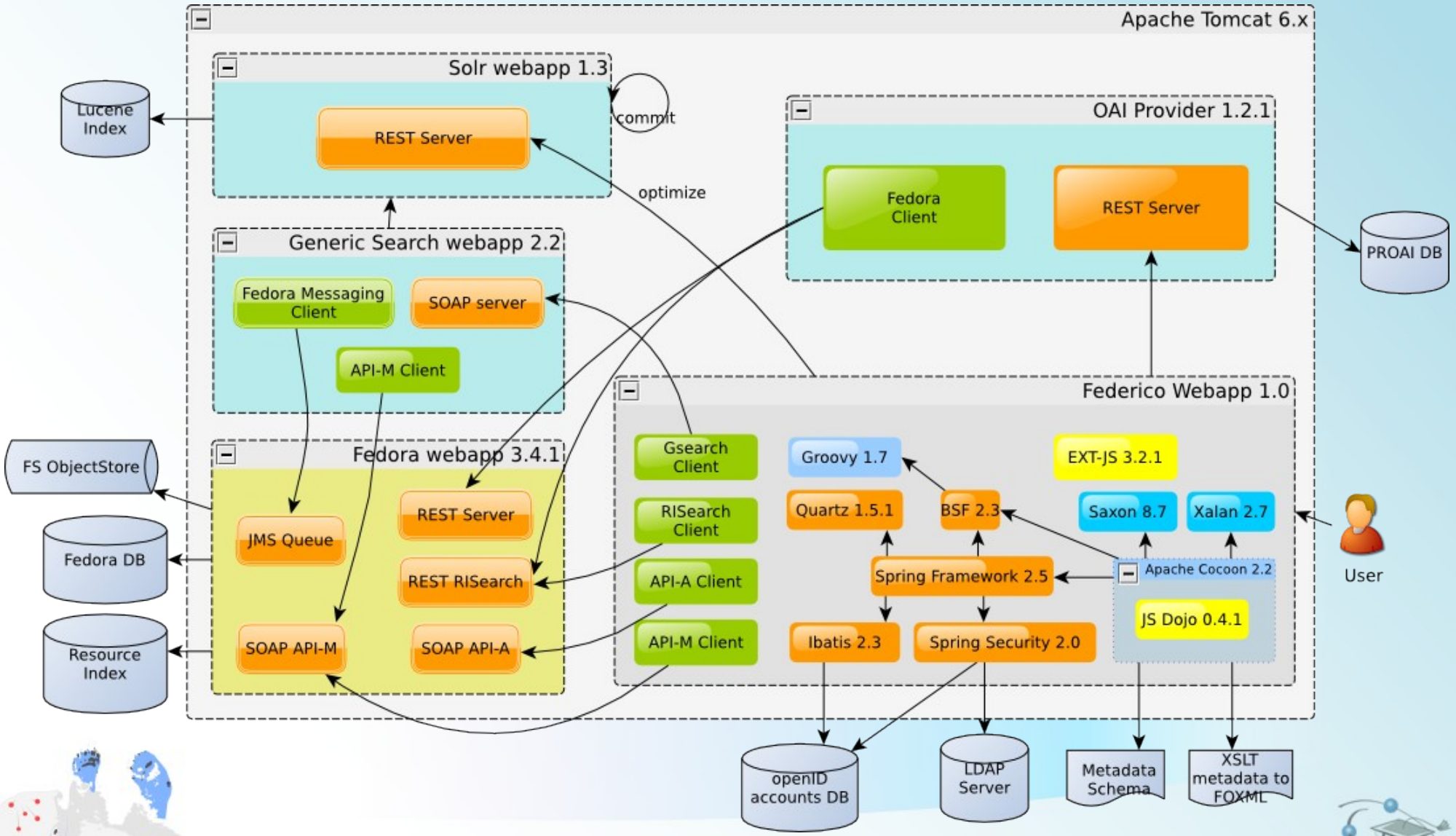
2.3 Content Model [1/2]



2.3 Content Model [2/2]



2.4 Architecture



2.5 Future Plans

- Hibernate Persistence Layer
  - To support other database manager systems: Postgresql
- Reduction of code
  - One client for API-M, API-A, RI-Search
- Easier configuration and maintainability
- Upgrade of Spring 2.5 to 3.0
- Support of spatial queries

3. Federico's Live Demo

3.1. User Interface

3.2. Authentication

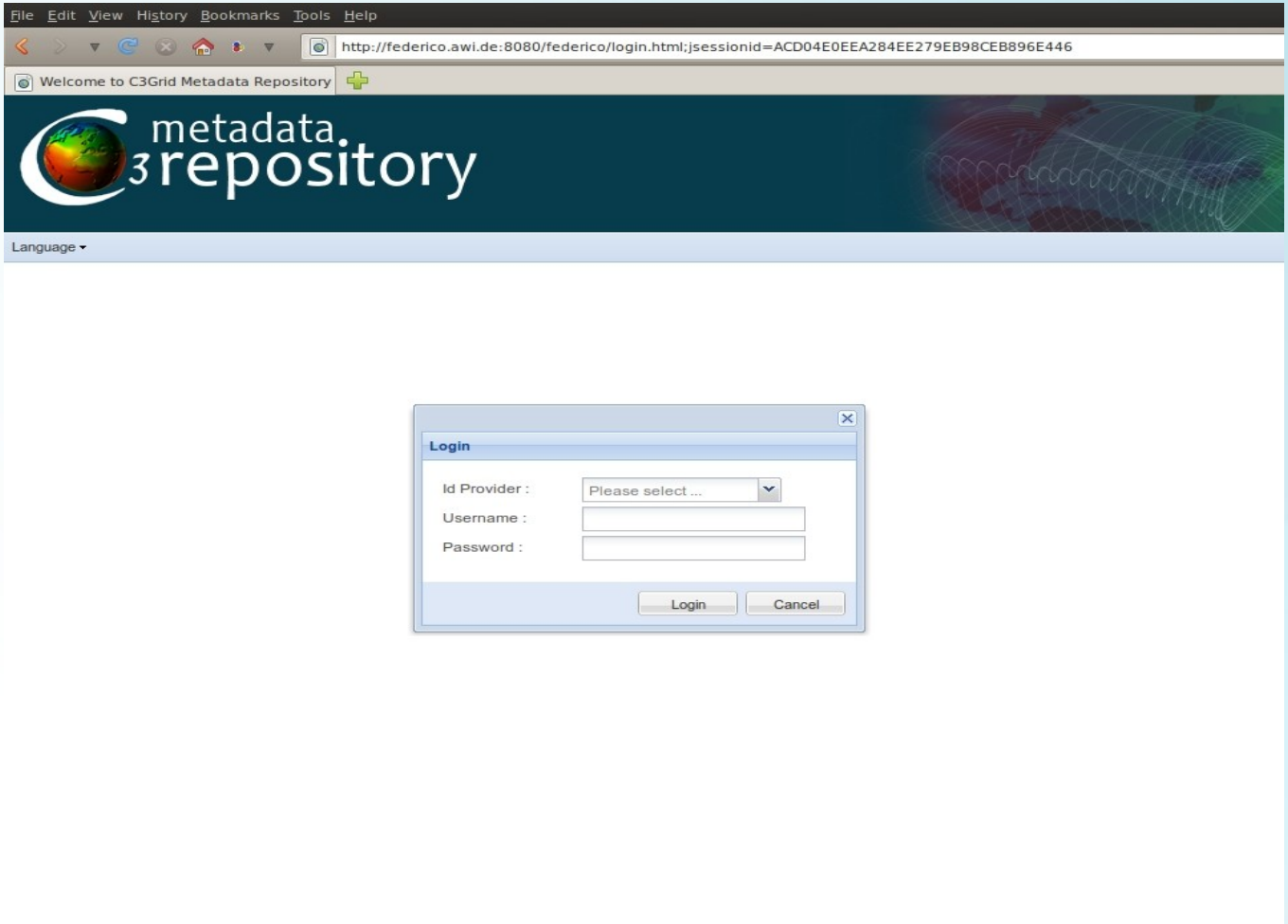
3.3. Ingest Collections

3.4. Full-text Search

3.5. OAI-PMH

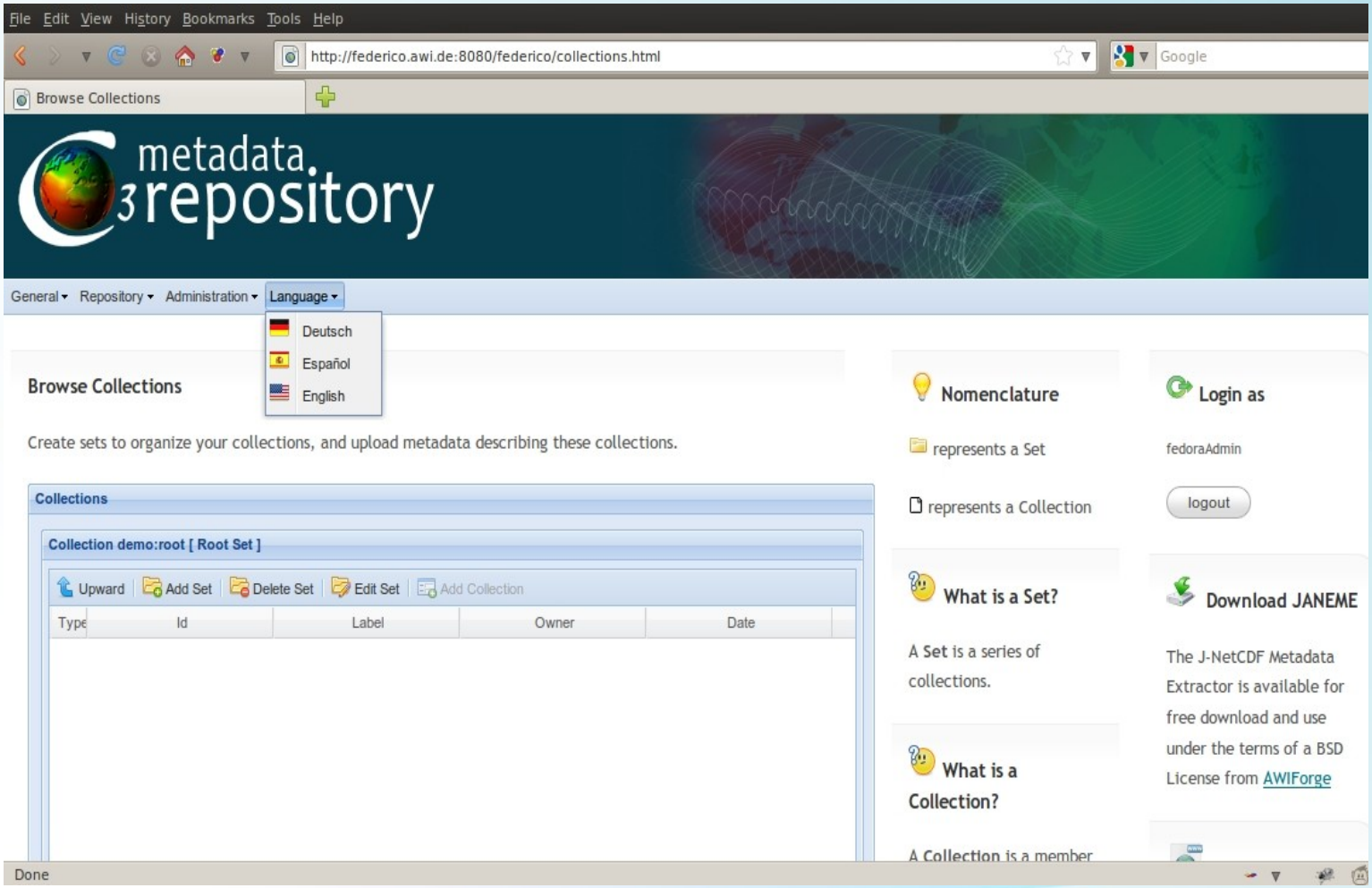
3. Federico's Live Demo: Screenshots

Login Form



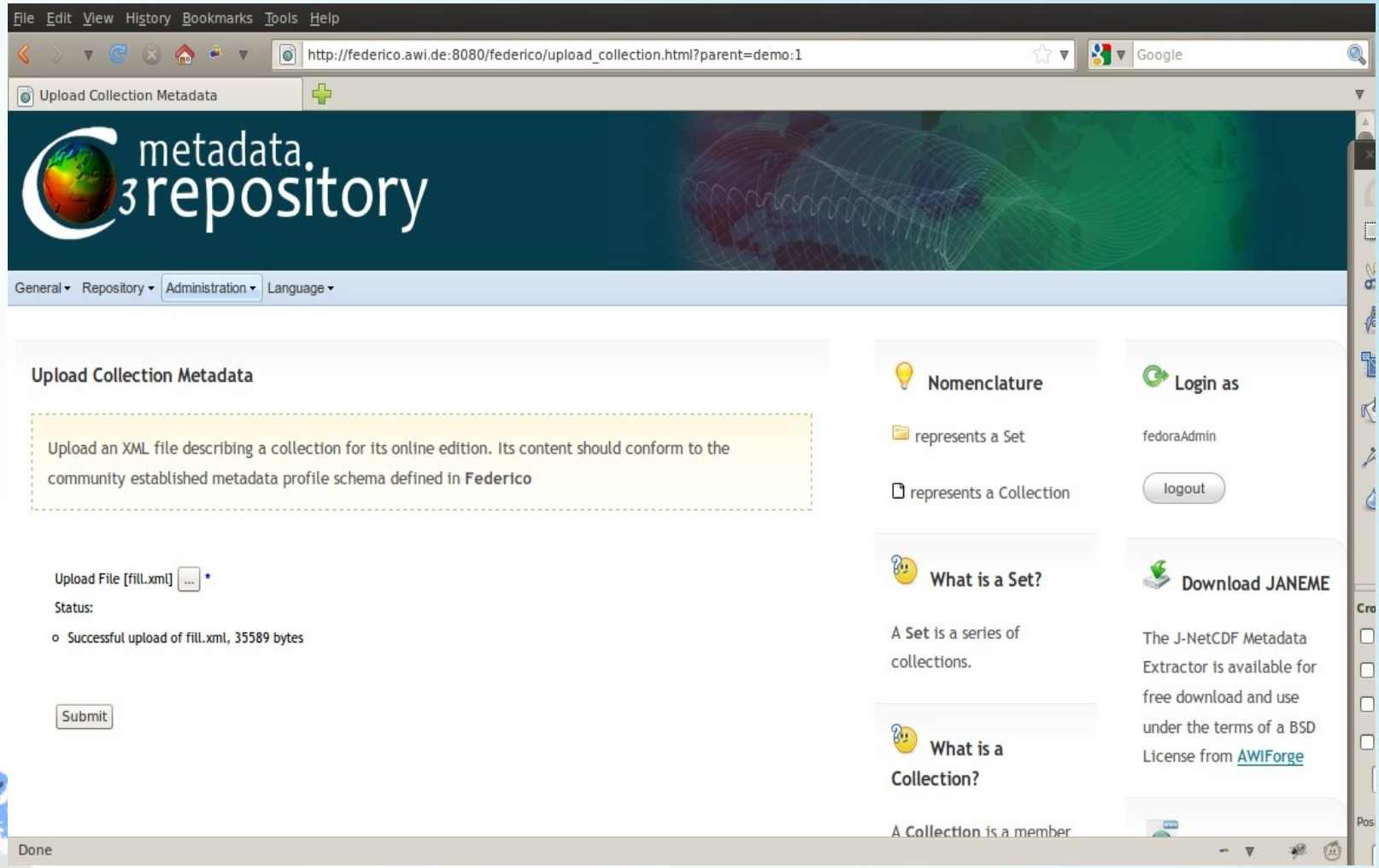
3. Federico's Live Demo: Screenshots

Browse Collections Form



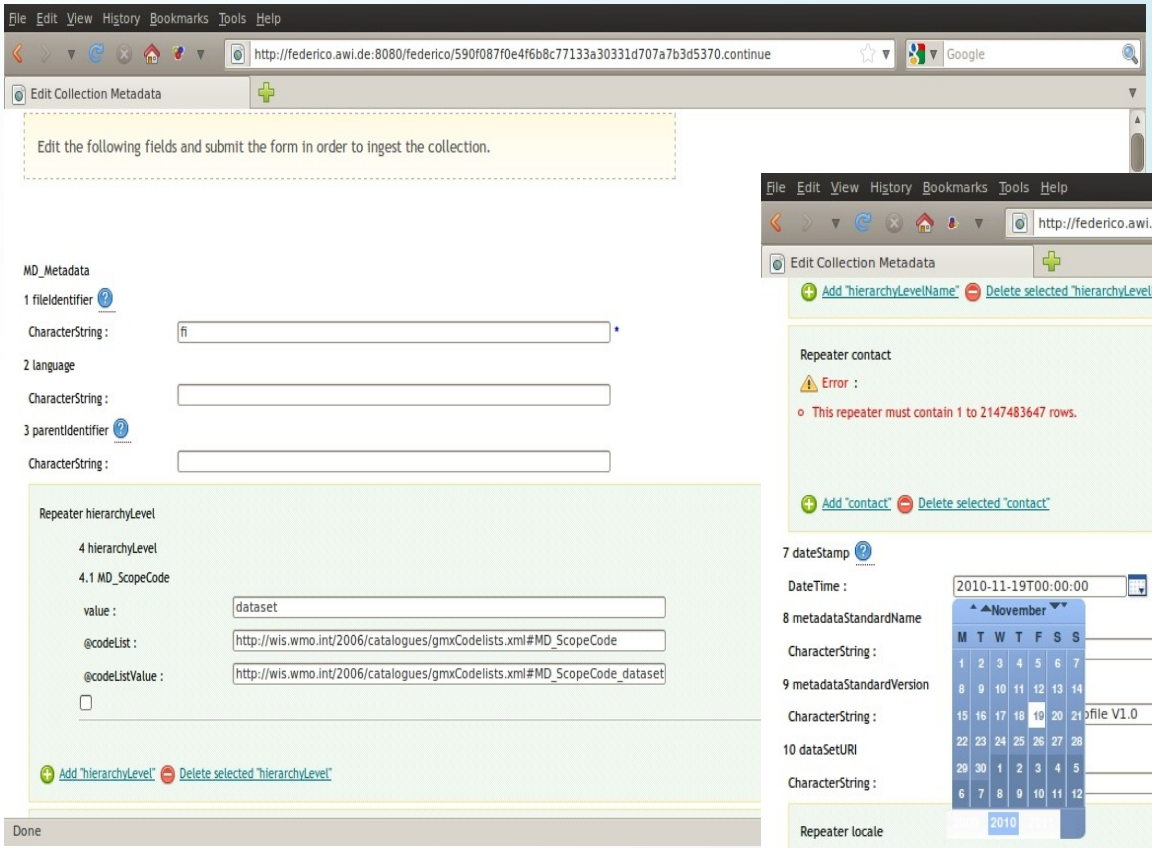
3. Federico's Live Demo: Screenshots

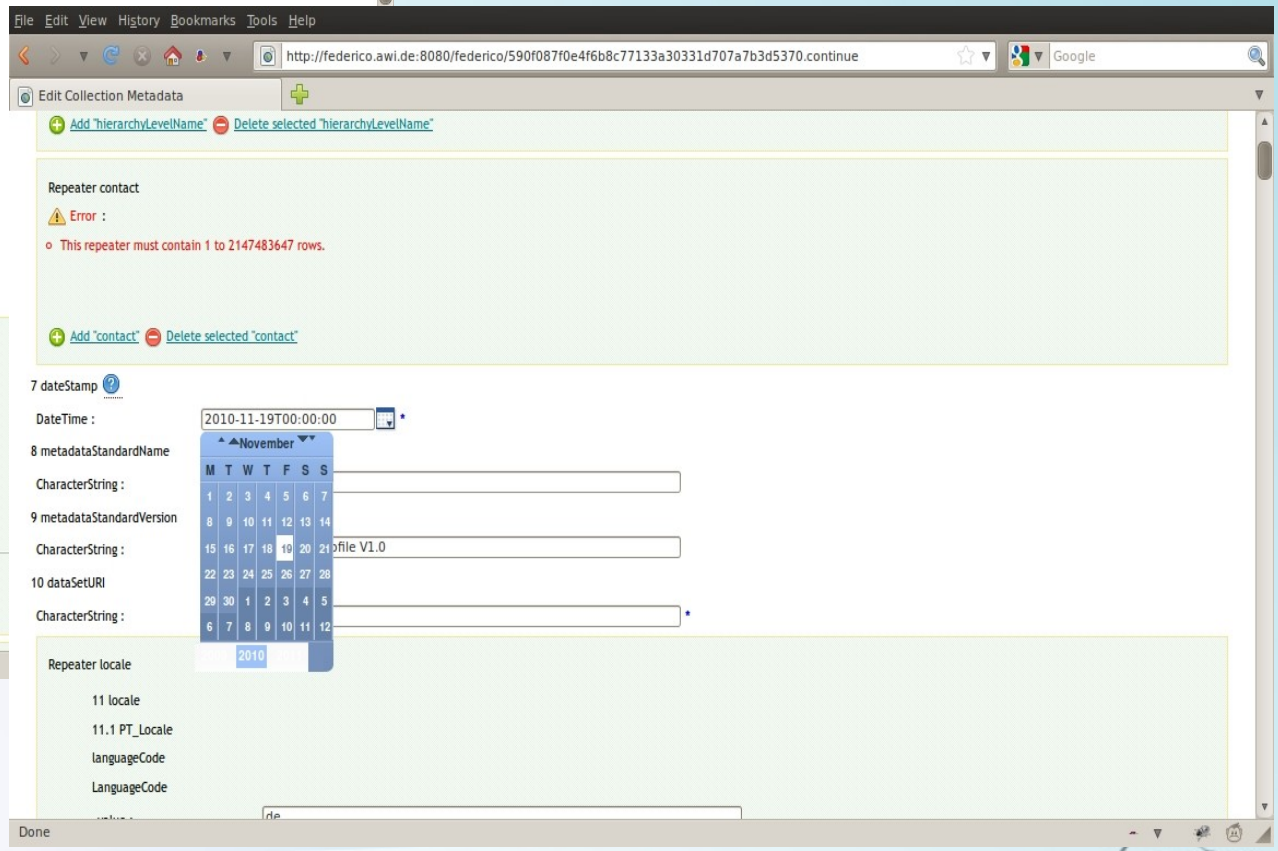
Metadata Upload



3. Federico's Live Demo: Screenshots

Metadata Edition





Summary

- Fedora as repository for digital information in research environment
  - Well defined API's
  - Content Model Architecture for the definition of “types” of objects
  - Harvesting through OAI-PMH
- Knowledge of XML is crucial
- Difficult UI implementation