



Fragmenta membranea database of the National Library of Finland

under the hood

Nordic Fragment Collections workshop
21.1.2021

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National library (NL) as service provider for open repository platforms

- NL hosts open repository platforms for public organizations
 - Service covers technical aspects (software / servers)
 - Paid service, started 2007
 - Over 50 customer organizations, 10 repository installations:
 - [Doria](#), [Theseus](#), [Julkari](#), [Lauda](#), [LutPub](#), [UtuPub](#), [Osuva](#), [Trepo](#), [Fenno-Ugrica](#), [Valto](#)
- Repositories are based on [Dspace](#), an open source based institutional repository application
 - out-of-the-box solution for running open repository
- **Fragmenta membranea** is **also** one of our **Dspace** installation

National library's repository management

- NL has made lots of local modifications to default Dspace code
- All NL's repository instances use same code base
 - Only front end code has customer specific modifications
- ...But there was one exception: [Fragmenta membranea!](#)
 - Heavily tailored, code differentiated from our common code base and other settings
 - Upkeep and updating was painful
- Restoration / re-engineering project in 2019
 - Fragmenta was converted to use the same code base than others, while keeping its special characteristics and functionalities
 - Easier to maintain, benefits improvements done to other instances

How data is organized in Fragmenta membranea

- Fundamental / atomic unit for representing object in Dspace is called **item**
 - Contains dublin core (dc) metadata and one or more files
- In Fragmenta database, **shelfmarks** (books) are **Dspace-items**
 - Contains:
 - Metadata in shelfmark-level
 - pdf that includes all available leaves of one shelfmark
 - Leaves separately as tif images
 - Tif images can also be viewed with [image viewer](#) software
 - Separate, home-made JavaScript software for previewing images
 - Zooming, flipping and browsing images within one shelfmark
 - Example: [Fragmenta item](#)










How data is organized in Fragmenta membranacea

- Items are aggregated inside Collections
- Collection can be browsed / searched with different metadata criteria

Homepage > Fragmenta membranacea > F.m.Vc

Items Show 20 / 100 / all items per page

Now showing items 1-20 of 27 Next Page

	<p>F.m.V.VAR.1 (De regimine principum) Aegidius Romanus Saec. xiv/xv</p>	 
	<p>F.m.V.VAR.2 (De animalibus) Albertus Magnus Saec. xiv ex. - xv in.</p>	 
	<p>F.m.V.VAR.3 (Physica novae translationis cum notis) Aristoteles Saec. xv med.</p>	 

+ more options

Subcollection by

- shelfmark
- author
- date
- contents
- origin

Relevant functionalities of Fragmenta database

- Thumbnail creation for images and pdf covers
- Solr-based search engine
 - Versatile [Lucene query syntax](#) (field-, boolean-, phrase-, fuzzy-search etc.)
 - Solr is utilized in Fragmenta's tailored advanced search
- Interfaces for interoperability:
 - **OAI-PMH** (for harvesting),
 - **OpenSearch** (machine friendly Lucene searches)
 - **REST** (for manipulating resources)



	<input type="text"/>
Scope	<input type="text" value="Fragmenta membr. v"/>
Shelfmark	<input type="text"/>
Contents	<input type="text"/>
Genre	<input type="text" value="v"/>
Language	<input type="text" value="v"/>
Origin	<input type="text"/>
Author	<input type="text"/>
Liturgical use	<input type="text"/>
Date	<input type="text"/> - <input type="text"/>
Results:	<input data-cs="2" data-kind="parent" type="text" value="10"/> v
Sort by:	<input data-cs="2" data-kind="parent" type="text" value="relevance"/> v
Order:	<input data-cs="2" data-kind="parent" type="text"/> v

Weaknesses in current Fragmenta membranacea implementation

- No separate metadata for individual files within item
 - That means, no metadata for single leaf
- No permanent addresses for individual files
 - Permanent addresses points only to item's front page (splash-page), not directly for individual files (leaves)
 - <http://urn.fi/URN:NBN:fi-fd2011-fra0001>

Future plans: Re-arrangement of data and IIF-support for images

- IIF server for images
 - Better reusability by serving images as IIF data
 - Pilot case, no prior experiences of IIF integration in our repositories
- Lots of work ahead before IIF server is possible
 - Re-arrangement of data: Dspace item single leaf instead of shelfmark
 - Enables permanent addresses and individual metadata for images
 - Metadata enrichment also needed
- Challenges with re-arrangement
 - Lots of GUI- related work ahead:
 - How to represent selfmarks in graphical and other interfaces
 - How submissions, editings etc. should be implemented, if images are not on Dspace server

www.kansalliskirjasto.fi

Thank you!

<https://fragmenta.kansalliskirjasto.fi/>

More about hosted repository services in NL (2017):

<http://urn.fi/URN:NBN:fi-fe201706217411>