

Fragmenta membranea database of the National Library of Finland

under the hood

Nordic Fragment Collections workshop 21.1.2021 Samu Viita, Systems analyst National library of Finland



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 <u>Dspace</u>, 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: <u>Fragmenta membranea!</u>
 - 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 selfmark
 - Leaves separately as tif images
 - Tif images can also be viewed with <u>image viewer</u> software
 - Separate, home-made JavaScript software for previewing images
 - Zooming, flipping and browsing images within one shelfmark
 - Example: <u>Fragmenta item</u>

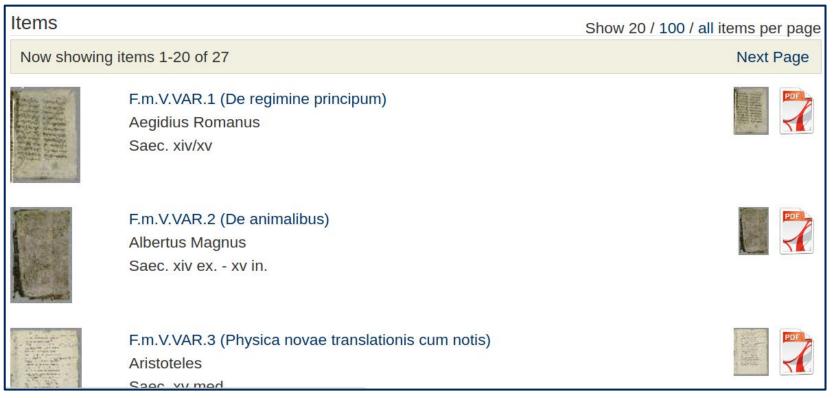


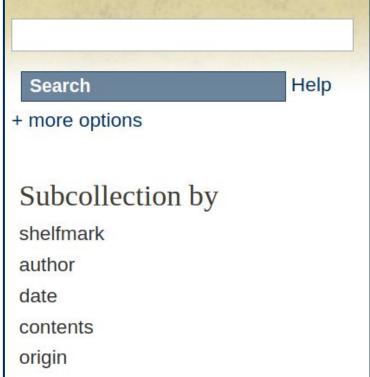


How data is organized in Fragmenta membranea

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

Homepage > Fragmenta membranea > F.m.Vc

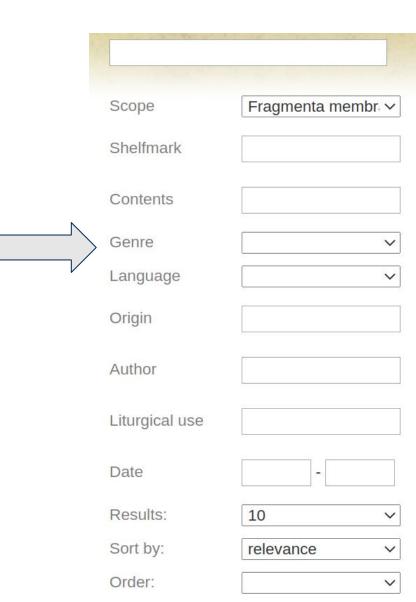




Relevant functionalities of Fragmenta database

- Thumbnail creation for images and pdf covers
- Solr-based search engine
 - Versatile <u>Lucene query syntax</u> (field-, boolean-, phrease-, fuzzy-search etc.)
 - Solr is utilized in Fragmenta's tailored advaced search
- Interfaces for interoperability:
 - OAI-PMH (for harvesting),
 - OpenSearch (machine friendly Lucene searches)
 - REST (for manipulating resources)





Weaknesses in current Fragmenta membranea 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-arragement of data and IIIF-support for images

- IIIF server for images
 - Better reusability by serving images as IIIF data
 - Pilot case, no prior experiences of IIIF integration in our repositories
- Lots of work ahead before IIIF 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

