



AMS Historica. A(n imaginary) migration journey

Intro

1. AlmaDL: AMS Historica and its siblings

2. AMS Historica

- Contents and collections
- Current back-end and metadata
- Current public interface and features
- A migration preview towards DSpace-GLAM

3. Knowledge Graph experiments

- Sources of data
- Entities, properties and relationships 1st attempt
- Entities, properties and relationships 2nd attempt

Conclusions and (off) new topics

1. AlmaDL. AMS Historica and its siblings

- AlmaDL: Digital Library of the University of Bologna since 2003
- Oversees 5 institutional repositories for different datasource and with different carachteristics
- DC metadata description
- OAI-PMH exposition
- Supervision of more advanced services such as Ask a Librarian,
 Toc and Moro digital archive project
- 4,5 FTE

AMS Acta: the OA institutional repository for research contributions, publications, and underlying data.

AMS Campus: teaching material (closed repository).

AMS Historica: digitized items from physical University of Bologna libraries' collections.

AMS First Cycle Degree Thesis: first cycle degree theses collected on Academic board voluntary base.

AMS PhD Theses: since 2008 devoted to collect, preserve, and make available the PhD theses.

AlmaDL Journals: Gold OA journals published by the University of Bologna Departments.

1. AlmaDL. AMS Historica and its siblings

Renository	Typology	ltems	Sw	life cycle
AMS Historica	Digitized/Historical material	1892 bib.items 84.236 images	In-house DB	2003-
AMS Acta	Research material	4.896	EPrints	2003-
AMS Tesi	Undergraduate Thesis	18.649	EPrints	2007-
AMS Tesi di dottorato	Phd Thesis	7.522	EPrints	2007-
AlmaDL Journals	OA Academic Journals	8.619 articles 49 Journals	OJS	2007-
AMS Campus	Teaching material		EPrints	2003-2018

AMS Acta: the OA institutional repository for research contributions, publications, and underlying data.

AMS Campus: teaching material (closed repository).

AMS Historica: digitized items from physical University of Bologna libraries' collections.

AMS First Cycle Degree Thesis: first cycle degree theses collected on Academic board voluntary base.

AMS PhD Theses: since 2008 devoted to collect, preserve, and make available the PhD theses.

AlmaDL Journals: Gold OA journals published by the University of Bologna Departments.

2. <u>AMS Historica</u>. Contents and collections

Patologia vegetale: malattie degli ortofrutticoli dopo la raccolta https://amshistorica.unibo.it/patologiavegetale

AMBULO - Manoscritti arabi della Biblioteca Universitaria di Bologna Online - Progetto della Cattedra di studi islamici King 'Abdulaziz -Università di Bologna https://amshistorica.unibo.it/manoscrittiarabi **

IGCyr | GVCyr https://amshistorica.unibo.it/epigrafi **

Rosa Genoni. La moda e la politica in una selezione di suoi scritti (1908-1928) https://amshistorica.unibo.it/rosagenoni

Manoscritti Greci https://amshistorica.unibo.it/manoscrittigreci **

Papyri Bononienses https://amshistorica.unibo.it/papiribon **

Ulisse Aldrovandi. Manoscritti

https://amshistorica.unibo.it/aldrovandimanoscritti **

Ulisse Aldrovandi. Opere a stampa

https://amshistorica.unibo.it/ulissealdrovandi-opereastampa

Architettura https://amshistorica.unibo.it/architettura

Periodici studenteschi

https://amshistorica.unibo.it/periodicistudenteschi

Fondo Antico di Geografia https://amshistorica.unibo.it/geografia

Corpus Iuris Civilis https://amshistorica.unibo.it/176

Il Codice miniato della Divina Commedia https://amshistorica.unibo.it/divinacommedia **

Giovanni Domenico Cassini https://amshistorica.unibo.it/giovannicassini

Fondo Maestrini https://amshistorica.unibo.it/fondomaestrini

Letteratura coloniale italiana

https://amshistorica.unibo.it/letteraturacoloniale

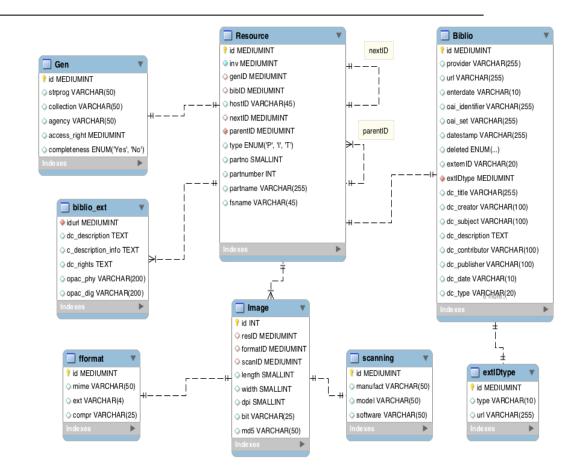
2. AMS Historica. The ugly duckling. Current back-end and metadata

In-house technology and servers

- DC and DC PICO application profile metadata
- OAI-PMH exposition for aggregators

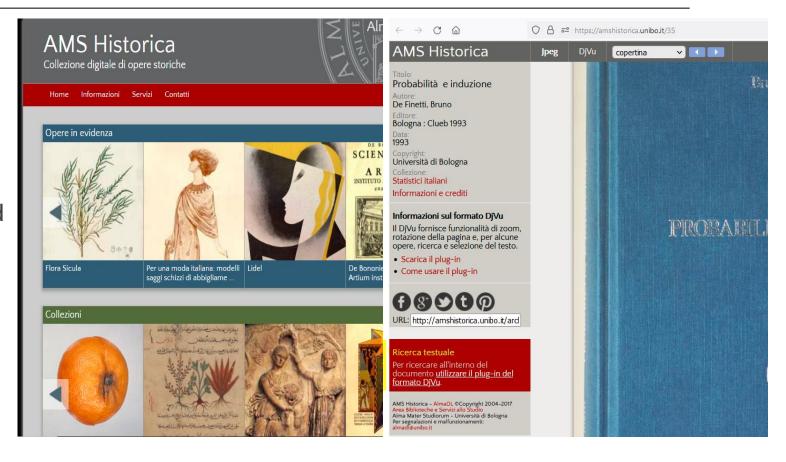
https://amshistorica.unibo.it/oai/oai2.php?verb=ListRecords&metadataPrefix=oaidc

https://amshistorica.unibo.it/oai/oai2.php? verb=ListRecords&metadataPrefix=pico



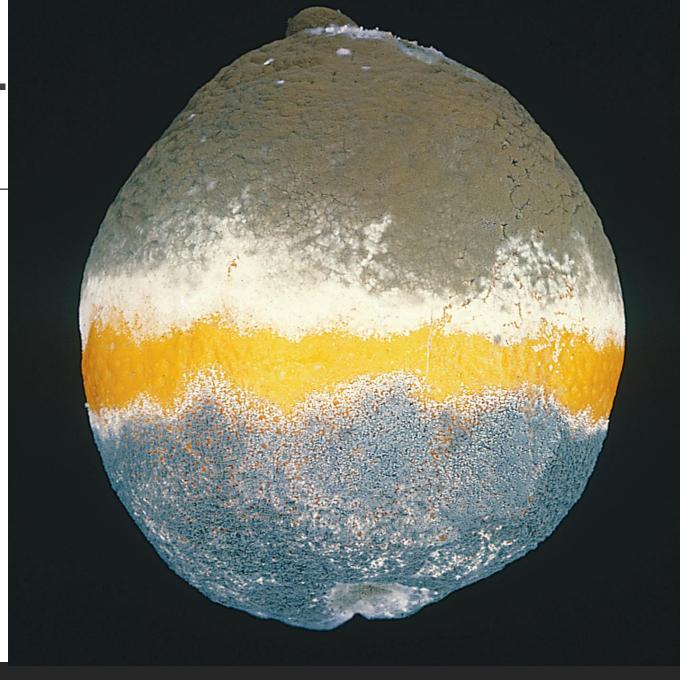
2. AMS Historica. The ugly duckling. Current public interface and features

- No search function
- No indexes browsing
- Optional OCR (14 items)
- Tiff master images converted in JPEG and <u>DjVu</u> format



2. The «ugly» duckling. My favorites

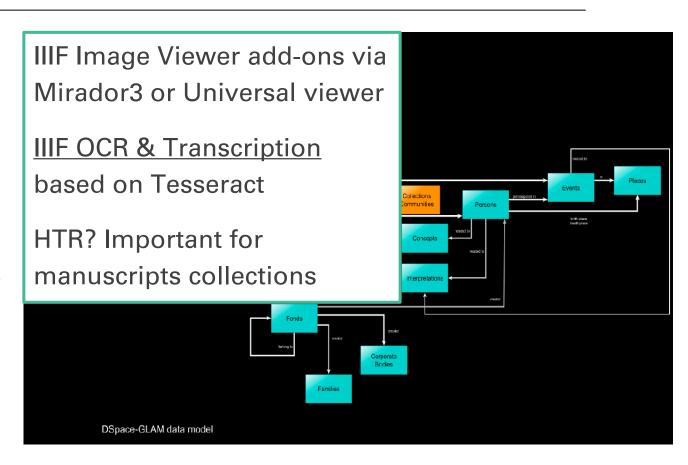
- Ulisse Aldrovandi, Ornithologiae <u>https://amshistorica.unibo.it/26</u>
- Manoscritti arabi <u>https://amshistorica.unibo.it/1680</u>
- Patologia vegetale
 https://amshistorica.unibo.it/1919



2. AMS Historica. The ugly duckling. A migration preview towards DSpace-GLAM

Why:

- growing complexity of digitized items and descriptive metadata
- too difficoult back end workflow
- Poor end-user experience
- Why DSpace-GLAM:
 - highly experienced past on open access digital repositories
 - GLAM extension for entities and institutions
 - high performative front-end outputs



3. Knowledge Graph experiments Sources of data

• Why:

- Migration at early stage (no GLAM data)
- DC metadata availble
- Facing challenges in translating data in a web semantic context

Data:

- From OAI-PHM first page
- Further data from AlmaDL

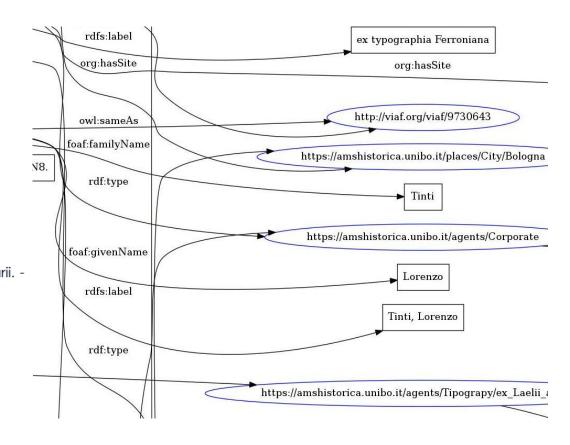
Available at:

Zani, E. (2022). AMS Historica. A(n imaginary) migration journey. https://github.com/enri-ca/AMSHistorica_SDL_project/.

3. Knowledge Graph experiments Entities, properties and relationships — 1st attempt

- Use of DC metadata translated in Dcterms
- Enhanced rdf description for typographer (VS simple string)
- dc:rights > dcterms:rightsholder

```
#Items
<items/Periodico/1> a dcterms:BibliographicResource;
dcterms:title "De Bononiensi Scientiarum et Artium instituto atque academia commentarii";
dcterms:description "De Bononiensi scientiarum et artium Instituto atque academia commentarii. -
T.1 (1731)-t. 7 (1791). - Bononiae: ex typographia Laelii a Vulpe, 1731-1791. - 28 cm. ((Irregolare.";
dcterms:publisher <agents/typograpy/ex_Laelii_a_Vulpe>;
dcterms:date "1731";
dcterms:type "Periodico";
dcterms:fype "Periodico";
dcterms:identifier "http://www.iana.org/assignments/media-types/text/html>;
dcterms:identifier "http://amshistorica.unibo.it/1";
dcterms:relation "http://amshistorica.unibo.it/1";
dcterms:relation "http://amshistorica.unibo.it/1";
dcterms:rightsHolders <agents/RightsHolders/Università_di_Bologna>.
```

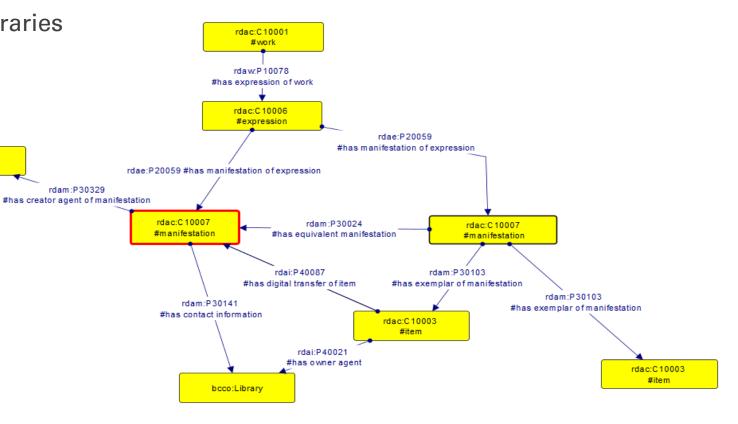


3. Knowledge Graph experiments Entities, properties and relationships — 2nd attempt

More info about original items, libraries and digitizations

#corporate body

- Reduced sample
- Creation of new entities:
 - libraries
 - RightsStatement
 - w, e, m, i blanknodes
- RDA modelization for FRBR level



Conclusions

Main challenges are in covering the 20-years distance between the first implementation of AMS Historica and today:

- back-end workflow
- Final user front-end experience
- Machine interoperability settings to allow mash-up
- OCR and HTR to explore the digital library content and extract more knowledge
- Provide semantic web oriented information
- Modelling the metadata information in an enough complex way to allow express the multilevel relationship in the digitization process

(Off) new topics from SDL course to explore in Archival field

Blockchain applied for archival authenticity

Lo Duca, Angelica, Clara Bacciu, and Andrea Marchetti. "The Use of Blockchain for Digital Archives: A Comparison between Ethereum and Hyperledger (AIUCD 2019)." *Umanistica Digitale, No. 8 (2020): Pedagogy, Teaching, and Research in the Age of Digital Humanities* (2020): Umanistica Digitale, No. 8 (2020): Pedagogy, Teaching, and Research in the Age of Digital Humanities. Web.

Introduzione Alla Blockchain Una Guida per Archivisti. Napoli: Editoriale Scientifica, 2020. Print.

Bell, Mark, et al. "Underscoring archival authenticity with blockchain technology." *Insights* 32.1 (2019).

(Off) new topics from SDL course to explore in Library field. I

Blockchain applied in library field

Chiu, Wei-Yang, Weizhi Meng, and Wenjuan Li. "LibBlock - Towards Decentralized Library System Based on Blockchain and IPFS." 2021 18th International Conference on Privacy, Security and Trust (PST) (2021): 1-9. Web.

Smith, Carrie. "BLOCKCHAIN REACTION: How Library Professionals Are Approaching Blockchain Technology and Its Potential Impact." American Libraries 50.3/4 (2019): 26-34. Web.

(Off) new topics from SDL course to explore in Library field. II

IPFS https://ipfs.io/ decentralized and shared file system for long term preservation programs (now proposed by CLOKSS https://clockss.org/ or Portico https://www.portico.org/)

 NFT and smart contracts in academic publishing: two potentially opposite uses (supporting OA from academics VS developed by academic publishers to control sharing and use)

Layout parsing and OCR for musical notation (<u>explored!!</u>)

