Share-VDE Workshop

ALA Annual 2023, Chicago, June 26, 8.30am – 10.30am Central US time
McCormick Place Convention Center, meeting room W192c

info@svde.org
https://svde.org
https://wiki.svde.org
https://www.share-family.org/
Share-VDE background and the Share Family
Share-VDE and Share Family – Linked Data Ecosystem: Principles

**CO-OPERATIVE**
Developed and driven by libraries, for libraries, the Share Family is a growing international community built on collaboration. Participating institutions play an active role in defining the vision, aims and progress of the Share Family and its tools.

The Share Family opens the door to a flexible, sustainable, interoperable and co-operative approach to bibliographic data, with time, expertise and costs shared across the community for the benefit of all members.

**INTEROPERABLE**
By implementing the BIBFRAME data model and facilitating interoperability with different data models and data pools, bibliographic information can be transformed into Linked Data, increasing the visibility of research and encouraging greater engagement with library, archive and museum collections.

We strive to encourage open access to data, and support diversity by freely sharing information. We apply and support open metadata policies as part of our commitment to enhancing the discovery of library and cultural heritage resources.

**FLEXIBLE**
Enriched and structured data can be re-used in local and external systems, across library types and ILS/LSPs, enabling each institution to maintain control of its own catalogue data.

The quality of data is guaranteed both through advanced technical processes and through collaborative data modeling, enrichment and sharing, handled collectively by member organizations.

**SUSTAINABLE**

**OPEN**

**AUTHORITATIVE**
# Share-VDE and Share Family - Linked Data Ecosystem: Processes

## Data Input from Institutions
- MARC21 bib. and holding
- MARC21 aut.
- UNIMARC
- RDF/BIBFRAME
- Other formats (eg. FOLIO)

## LOD Platform Services
- Mapping
- URI Enrichment
- Reconciliation
- Creation of Linked Data Entities
- Conversion to RDF/BIBFRAME

## Results

### Data Publication
- End user discovery portals for each initiative of the Share Family
- Search APIs for data consumption (GraphQL, REST, SPARQL)

### Data Distribution
- API / protocols for third parties integration (eg. local LSPs and data editor such as Wikidata, Sinopia BIBFRAME editor, FOLIO etc.)
- Downloadable datasets (BIBFRAME/RDF, MARC enriched records)

### Shared Data Management
- Editing of Share Family entities with JCricket
- Reuse of Share Family BIBFRAME data in local library systems
- Reuse of Share Family MARC representations in local library systems

### Additional Services
- Authority control in MARC and BIBFRAME-based workflows
- SFI - Share Family Index: registry of entity URIs
Stepping stones

2016

Share Catalogue online

2017

Share-VDE prototype

2018

2019

2017-2019: Share-VDE members’ and LD4P members’ data from MARC21 to BIBFRAME

2019-2021 Share-VDE - environment for library LOD

2020

2021

2021-ongoing PCC data pool

Share Family embraces all LOD Platform initiatives

2022

Share-VDE 2.0 new Linked Data Management System and Entity Discovery Portal

2023

BNB in LOD progresses towards production (beta)

Share Family - towards production

Parsifal launch

2016-ongoing NatBib WG and shared discovery environment

Program for Cooperative Cataloging

Share-VDE 2.0

2016-ongoing Share-VDE - environment for library LOD

2019-2021 Share-VDE members’ and LD4P members’ data from MARC21 to BIBFRAME

2017-2019: Share-VDE members’ and LD4P members’ data from MARC21 to BIBFRAME

2019-2021 Share-VDE - environment for library LOD

2021-ongoing Share-VDE members’ and LD4P members’ data from MARC21 to BIBFRAME

2019-2021 Share-VDE - environment for library LOD

2021-ongoing Share-VDE members’ and LD4P members’ data from MARC21 to BIBFRAME

2019-2021 Share-VDE - environment for library LOD
The Share Family is a global community built on collaboration that brings together libraries, archives, museums, consortia and Library Service Platforms (LSP) and joins their knowledge in an ever-widening network of interconnected bibliographic data.

For further details please refer to the following section of the wiki: About the Share Family.
Share-VDE - Virtual Discovery Environment

https://www.svde.org

Berkeley Law Library
Duke University
Library of Congress
National Library of Finland
National Library of Norway
New York University
Smithsonian Libraries and Archives
Stanford University
University of Alberta / NEOS Library Consortium
University of Chicago
University of Michigan Ann Arbor
University of Pennsylvania
Vanderbilt University
Yale University
Share Catalogue: Scholarly Heritage and Access to Research

Università degli Studi di Napoli Federico II
Università degli Studi della Basilicata
Università degli Studi del Sannio
Università degli Studi di Salerno
Università degli Studi di Napoli Parthenope
Università degli Studi del Salento
Università degli Studi di Napoli L'Orientale
Università degli studi della Campania Luigi Vanvitelli
Università degli Studi Suor Orsola Benincasa

Share Catalogue discovery portal
National Bibliographies in Linked Open Data

The aggregation of data from National Bibliographies in a shared entity discovery environment; the first of these is the BNB - British National Bibliography, soon to go into production.

The preview of the BNB beta website is available at

https://bl.natbib-lod.org/

https://natbib-lod.org/
The Share Family hosts a dedicated tenant for the data of the PCC - Program for Cooperative Cataloging, to provide PCC-quality BIBFRAME data housed in an ad hoc data pool.

https://pcc-lod.org/
Parsifal - Integrated Catalogue in Linked Open Data

Accademia Alfonsiana
Centro Pro Unione
Pontificia Facoltà di Scienze dell'Educazione "Auxilium"
Pontificia Facoltà Teologica "Marianum"
Pontificia Università Antonianum
Pontificia Università della Santa Croce
Pontificia Università di San Tommaso d'Aquino (Angelicum)
Pontificia Università Gregoriana

Pontificia Università Lateranense
Pontificia Università Urbaniana
Pontificio Ateneo Sant'Anselmo
Pontificio Istituto Biblico
Pontificio Istituto Orientale
Pontificio Istituto Teologico "Giovanni Paolo II" per le Scienze del Matrimonio e della Famiglia
Pontificium Institutum Patristicum Augustinianum
Università Pontificia Salesiana

https://parsifal.urbe.it/parsifal/?l=en
Three pilot projects for shared Linked Open Data environments in the domains of Art, Music and Manuscripts, Incunabula and Ancient books
Today’s agenda

Introduction of initiatives

Use case and models for participation

Future perspectives and JCricket demo

Wrap up
Introduction of Initiatives
Share-VDE Groups
Libraries members of Share-VDE and Share Family Working Groups and parallel projects are constantly contributing with their Subject Matter Experts to requirements gathering, functional analysis and feedback to developments.

Share Family Working Groups:
- National Bibliographies Working Group involving SVDE members and external institutions
- Italian group for the conversion UNIMARC - BIBFRAME
- discussions in the field of photo libraries and audio-visual collections

Share-VDE Advisory Council and Working Groups:
- Share-VDE Advisory Council
- Sapientia Entity Identification WG
- Authority/Identifier Management Services WG
- Cluster Knowledge Base Editor WG
- User experience/User Interface WG
The Share-VDE AC takes an active role in determining future uses and vision for the Share-VDE initiative; Develop future use cases for Share-VDE, and set development priorities as needed; Monitor and lead the work of the various Advisory Council Working Groups; Maintain communication among the Share Family member institutions.

Among the latest outcomes:

- Share-VDE Executive Summary, December 2022, summarising the scope of Share-VDE in the context of Linked Open Data for Libraries;
- Share-VDE Statement, September 2021, illustrating the explanation of position of SVDE in the broader context of Library Linked Open Data;
- Library and community events sub-group, dedicated to monitoring conferences/events/initiatives of interest for the Share community, and to submitting proposals for presentations as appropriate;
  - see the SVDE wiki Resources page for details about SVDE presentations at conferences and events.
The AIMS WG defines guidelines and best practices for Authority/Identifier management; describes scope and data-flow for the creation and implementation of automated services based on preliminary documentation; proposes additional use cases identified as essential for effective knowledge base management.

Among the latest outcomes:

- definition of use cases;
- functional analysis;
- study of the interaction with Wikidata and ISNI (joint work with CKBE WG to design JCricket functionalities);
- pilot of MARC-based authority services with Stanford University Libraries;
- assessment of services for authority control in linked data workflows.
The National Bibliographies Working Group is dedicated to facilitating practical cooperation among National Bibliographies, and addressing the needs of National Libraries and institutions that hold National Bibliographies within the framework of a shared entity discovery environment such as the Share Family of initiatives.

Among the latest outcomes:
- overview document National_Bibliographies_Share_Family_initiative_2022-June.pdf
- involvement of SVDE / Share Family members and external institutions;
- IFLA Bibliographic Section liaison (Maud Henry from KBR - Royal Library of Belgium);
- discussion on topics of interest related to hosting national bibliographies as an ad hoc tenant;
- main tenant of the shared discovery environment for national bibliographies: https://natbib-lod.org/;
- implementation of the skin portal for the BNB - British National Bibliography https://bl.natbib-lod.org (this is a preview of a beta site);
- joint work with the SVDE UX-UI working group to design end user services and user interface/discovery features.
The CKBE WG examines how libraries interact with the Sapientia Cluster Knowledge Base (CKB) and their use of the JCricket Editor for modifying (correcting / enriching), deleting, merging and separating clusters.

Among the latest outcomes:
- back-end developments for JCricket entity editor are completed, front-end features in progress;
- definition of use cases;
- design of manual editing features;
- analysis of interaction with Wikidata and ISNI to be incorporated into JCricket and authority dataflows that feed the Cluster Knowledge Base (joint work with AIMS WG to design JCricket functionalities).
The **SEI WG** reviews the use of entities, identifiers, and associated modelling in the Sapientia CKB; evaluates and refines processes for Sapientia entity clustering in Share-VDE and the creation of associated open and stable URI for use in Share-VDE and in the library community; reviews MARC to BIBFRAME and BIBFRAME to MARC conversion; engages with the library community to outline and/or develop best practices for use of Sapientia identifiers in BIBFRAME and MARC data.

Among the latest outcomes:
- layers in SVDE entity model: `svde:Opus | svde:Work`;
- `svde:Work` is subclass of `bf:Work` → this ensures interoperability;
- definition of SVDE ontology;
- review of clustering and conversion rules;
- cooperation in the IFLA context: the mapping UNIMARC-BIBFRAME is being prepared and a formal liaison with SVDE has been approved by the IFLA Bibliography Section Standing Committee.
The **UX-UI WG** has redesigned the Share-VDE user interface to meet the requirements and expectations of both patrons and library staff. SVDE 2.0 entity discovery interface:

- reflects the components of the Share-VDE data model infrastructure;
- harnesses the potential of linked data and delivers wide-ranging and detailed search results;
- provides an intuitive user experience, hiding the complexity of the underlying data model;
- embeds partner APIs for interoperability with local library services (e.g. lending);
- allows dedicated skins, ie. customised sub-portals dedicated to individual institutions.

Among the latest outcomes:

- Share-VDE 2.0 Entity Discovery [https://svde.org](https://svde.org)
- new Entity Discovery Portal and new back-end infrastructure for the Linked Data Management;
- other **Share Family discovery portals** supported by the same technology;
- review and enhancement of portal features, in conjunction with the National Bibliographies Working Group.
Discovery Environment(s)


National Bibliographies' portal - https://natbib-lod.org/

British National Bibliography’s skin - https://bl.natbib-lod.org/
Outdated - under discussion

IFLA LRM

- Work
  - Expression
    - Manifestation
      - Item
      - Item
  - is realized through
  - realizes
  - is embodied in
  - embodies
  - is exemplified by
  - exemplifies

BIBFRAME

- Hub
  - Work
    - Expression
      - Instance
        - Item
        - Item
  - bf:hasExpression
  - bf:expressionOf
  - bf:hasInstance
  - bf:instanceOf
  - bf:hasItem
  - bf:ItemOf

Share-VDE

- svde:Opus
  - svde:Work
    - Item
      - Item
  - bf:hasExpression
  - bf:expressionOf
  - bf:hasInstance
  - bf:instanceOf
  - bf:hasItem
  - svde:Item
  - bf:ItemOf
  - svde:Item
What JCricket is

✅ it’s a linked data entity / authority editor

✅ it applies to linked data entities created within all tenants of the Share Family (svde.org, pcc-lod.org, natbib-lod.org)

✅ it’s a manual application that manages properties (attributes, relations and links) of entities in the CKB - Cluster Knowledge Base

✅ it’s a collaborative tool shared across member institutions

✅ it can be a new tool for entity sharing in LOD
What JCricket *is not*

- not a traditional bibliographic data editor
- not an original cataloguing tool
- not in contrast with Sinopia or Marva
- not impacting original data that reside in member libraries’ systems (unless libraries want to use ad hoc APIs for entity updates both in SVDE and in their systems)
SHARE Catalogue was created as part of the SHARE (Scholarly Heritage and Access to Research) project. It was based on a specific inter-university agreement for library services, to put in place the 2013-2015 three-year program. Part of this larger program was the creation of an integrated system for the use and management of resources among the different Academic Libraries of Southern Italy.

SHARE Catalogue went online in 2016 as the technology platform for browsing library catalogues organised according to the BIBFRAME model. The portal, a single point of access to the entirety of the integrated resources (books, serials, etc.), saves time and refines the search experience modes, returning results enriched by sources outside the catalogues.
SHARE Catalogue - Participating Universities

Università degli Studi di Napoli Federico II (Naples)

Università degli Studi della Basilicata (Potenza)

Università degli Studi del Sannio (Benevento)

Università degli Studi di Cassino

Università degli Studi di Salerno (Salerno)

Università degli Studi di Napoli Parthenope (Naples)

Università degli Studi del Salento (Lecce)

Università degli Studi di Napoli L’Orientale (Naples)

Università degli studi della Campania Luigi Vanvitelli

Università degli Studi Suor Orsola Benincasa (Naples)
From LOD Platform 1.0 to 2.0

https://catalogo.share-cat.unina.it/sharecat/clusters
The Italian Working Group on UNIMARC to BIBFRAME 2.0 Crosswalk was established as part of the SHARE Catalogue project. Its main objective is to carry out a "direct" mapping between UNIMARC and BIBFRAME 2.0 without relying on MARC 21 as an intermediary. The working group is coordinated by Claudio Forziati (Università degli Studi di Napoli “Federico II”).

Recent results:

- analysis of the differences between UNIMARC and MARC 21 and mapping of the two formats;
- first mapping step between UNIMARC and BIBFRAME 2.0;
- assessment and review of the first mapping result, with particular attention to the definition of the model entities;
- second phase of mapping (still in progress).
# Working Group on UNIMARC to BIBFRAME 2.0 Crosswalk

## UNIMARC/MARC 21 mapping

<table>
<thead>
<tr>
<th>A</th>
<th>Valori</th>
<th>MARC21</th>
<th>Indicator 1</th>
<th>Indicator 2</th>
<th>MARC</th>
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<tbody>
<tr>
<td>300 - General notes</td>
<td>600 - General Note (R)</td>
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<td># - Undefined</td>
<td># - Undefined</td>
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</tr>
<tr>
<td>300 - General notes</td>
<td>500 - General Note (R)</td>
<td></td>
<td></td>
<td></td>
<td>$a - Gb</td>
</tr>
<tr>
<td>300 - General notes</td>
<td>500 - General Note (R)</td>
<td></td>
<td>$3 - Ma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300 - General notes</td>
<td>500 - General Note (R)</td>
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<td>$5 - In</td>
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<td>300 - General notes</td>
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<tr>
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<td>500 - General Note (R)</td>
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<td>$8 - Fk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>301 - Notes Pertaining to Identification Numbers</td>
<td>600 - General Note (R)</td>
<td></td>
<td># - Undefined</td>
<td># - Undefined</td>
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</tr>
<tr>
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<td></td>
<td>$8 - Fk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>302 - Notes Pertaining to Coded Information</td>
<td>600 - General Note (R)</td>
<td></td>
<td># - Undefined</td>
<td># - Undefined</td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>$a - Gb</td>
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<td>500 - General Note (R)</td>
<td></td>
<td>$8 - Fk</td>
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<td>600 - General Note (R)</td>
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<td># - Undefined</td>
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<tr>
<td>303 - General Notes Pertaining to Descriptive Information</td>
<td>500 - General Note (R)</td>
<td></td>
<td></td>
<td></td>
<td>$a - Gb</td>
</tr>
</tbody>
</table>
## UNIMARC/BIBFRAME 2.0 mapping

<table>
<thead>
<tr>
<th>UNIMARC</th>
<th>MARC21 FIELDS</th>
<th>ATTRIBUTE</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fields 5XX - Notes - v1.6, 06/01/2021</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>300 - General Note</strong></td>
<td><strong>500 - GENERAL NOTE (R)</strong></td>
<td>1 - note - Note</td>
<td></td>
</tr>
<tr>
<td><strong>305 - Notes Pertaining to Edition and Bibliographic History</strong></td>
<td><strong>Subfield Codes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a - Text of Note</td>
<td>$a - General note (NR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>316 - Note Relating to the Copy in Hand</td>
<td><strong>501 - WITH NOTE (R)</strong></td>
<td>1 - note - Note</td>
<td>MODIFIED</td>
</tr>
<tr>
<td><strong>Subfield Codes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a - Text of Note</td>
<td>$a - With note (NR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>320 - Internal Bibliographies/Indexes Note</td>
<td><strong>504 - BIBLIOGRAPHY, ETC. NOTE (R)</strong></td>
<td>1 - supplementaryContent - SupplementaryContent</td>
<td>MODIFIED (MOVED FROM WORK TO INSTANCE)</td>
</tr>
<tr>
<td><strong>Subfield Codes</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>a - Text of Note</td>
<td>$a - Bibliography, etc. note (NR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/</td>
<td>$b - Number of references (NR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/</td>
<td>506 - RESTRICTIONS ON ACCESS NOTE (R)</td>
<td>1 - usageAndAccessPolicy - AccessPolicy</td>
<td></td>
</tr>
<tr>
<td>/</td>
<td><strong>Subfield Codes</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The SHARE Catalogue-Wikidata Working Group aims to improve the data quality of the Cluster Knowledge Base (CKB) using certain "data control" tools of Wikidata. The working group is coordinated by Claudio Forziati (Università degli Studi di Napoli “Federico II”).

Work phases:

- Uploading agent clusters to Wikidata (Mix'n'match: catalogue author 1-399999, catalogue author 400000-699999);
- Automatic and manual associations with entities already existing in Wikidata;
- Checking for exceptions to single value constraints using specific SPARQL queries;
- Identification of cases requiring intervention;
An example of SHARE Catalogue entity in Wikidata

The SHARE Catalogue property in Wikidata

**Frederick II, Holy Roman Emperor**

<table>
<thead>
<tr>
<th>SHARE Catalogue author ID</th>
<th>437086</th>
<th>edit</th>
<th>0 references</th>
<th>add reference</th>
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<td>0 references</td>
<td>add reference</td>
</tr>
<tr>
<td></td>
<td>401869</td>
<td>edit</td>
<td>0 references</td>
<td>add reference</td>
</tr>
</tbody>
</table>
Parsifal - Participating libraries (Unione Romana Biblioteche Ecclesiastiche)

- Pontificia Università Antonianum
- Università Pontificia Salesiana
- Pontificium Institutum Patristicum Augustinianum
- Accademia Alfonsiana
- Pontificia Università della Santa Croce
- Pontificia Università S.Tommaso d’Aquino
- Pontificio Istituto Biblico
- Pontificio Facoltà di Scienze dell’Educazione Auxilium
- Pontificia Università Gregoriana
- Pontificia Università Urbaniana
- Pontificio Istituto Teologico Giovanni Paolo II
- Pontificia Facoltà Teologica Marianum
- Pontificia Facoltà di Scienze dell’Educazione Auxilium
- Pontificia Università Lateranense
- Pontificio Ateneo Sant’Anselmo
- Pontificio Istituto Orientale
- Centro Pro Unione
Parsifal - A new ecosystem to achieve virtuous cooperation

PARSIFAL responds to the need identified by the Rectors of the Roman Pontifical Universities to equip their institutions' libraries with a highly innovative search engine, bringing together bibliographic data and authority items from the 17 participating URBE libraries in a dedicated portal that provides a single access point to the libraries' vast patrimony of resources: the portal counts about 3 million records to date, and is updated weekly or daily, allowing users to benefit from a streamlined, efficient, research experience, with results enriched by sources from individual catalogues.

Created according to the BIBFRAME bibliographic model, with extensions to ensure compatibility with the IFLA LRM (Library Reference Model), an integral part of the RDA guidelines in use across the URBE network since 2017, the technological platform is a component of the Share Family initiative.
The name of the portal, **Parsifal**, is a symbolic reference to the central figure in the myth of the Grail, narrated for the first time in *Perceval* (a chivalric poem by Chrétien de Troyes) and subsequently expanded by the German, Wolfram von Eschenbach, in his work *Parzival*; this nod to the Arthurian legend and young Parsifal's quest for the Grail reflects the platform's primary objective of helping users in their search to find, identify, select, obtain and navigate information on works, creators and their relationships.
The delighted coexistence of MARC 21 and BIBFRAME

Already existing in traditional format (Marc 21 Bib & Authority)

New born object (in BIBFRAME)

New born object (in Marc 21 Authority)
Strengths of Parsifal project

● The opportunity to ground a **cooperative environment**: the harmonization of cataloguing practices through the “Cataloguing Board”

○ Rules to choose the preferred form of the Agent cluster’s name, in case of heterogeneous forms

■ **Franciscus Assisiensis, santo, 1182-1226**

■ **Benedictus a sancto Philadelpho O.F.M., s., 1526-1589**

○ Rules to normalizing the preferred form of the Agent cluster

■ **Gandulphus Bononiensis, sec. XII** becomes **Gandulphus Bononiensis, secolo 12**

■ **Abbo Floriacensis, s., ca.945-1004** becomes **Abbo Floriacensis, santo, circa 945-1004**
Strengths of the Parsifal project

- Share knowledge and experience: **URBE Central Authority Catalogue:**
  - all Parsifal clusters have been exported to BIBFRAME and converted to MARC 21 format to be loaded into the WeCat cataloguing module.
  - **WeCat/Authority:** a shared tool to guarantee quality data. Each library accesses the same WeCat to increase the quality level of the catalogue. The authority record related to the Agent cluster is published on the Parsifal portal:
    - [https://parsifal.urbe.it/parsifal/searchNames?n_cluster_id=76560](https://parsifal.urbe.it/parsifal/searchNames?n_cluster_id=76560)

- Not only MARC 21: the publication of **BIBFRAME data**
- A practical approach to test the **bf:Hub**
  - [https://parsifal.urbe.it/parsifal/searchTitles?t_cluster_id=73295&l=en](https://parsifal.urbe.it/parsifal/searchTitles?t_cluster_id=73295&l=en)
- A moving project: the publication of the **URBE Academic Bibliography** and the connection to Wikidata
Weaknesses of the Parsifal project

- Cooperation weakness: data discrepancy and the impact on clustering
  - many name forms reoccurring matching common titles:
    - **Baccarani, Alfonso Maria, O.S.M., 1922-1998**
    - **Abbrescia, Domenico M., O.P., 1922-1996**

- Open questions on how to overcome clustering/identification issues
  - **Cola di Rienzo** in Parsifal (ID 39891 and ID 284134)
Weaknesses of the Parsifal project

- The new local/central workflow: the challenge of handling complexity and the foundation for a new approach to workflow management.

- How to align the center with the peripheral nodes: the Parsifal CKB (in BIBFRAME) together with the Central Authority Catalogue (in Marc 21) as the heart of the Parsifal ecosystem. But a commlink with each library is therefore needed.
How to align the center with the peripheral nodes

The Parsifal CKB (in BIBFRAME) together with the Central Authority Catalogue (in Marc 21) as the heart of the Parsifal ecosystem. But a commlink with each library is therefore needed.

An example of daily reports sent to libraries:

1. New clusters by source (new clusters produced by local bib delta and by the Central Authority Catalogue delta).
2. Updated clusters by source (updated clusters by local bib delta and by the Central Authority Catalogue delta).
3. Inactive clusters by source.
4. Discarded records by source.
5. Deleted records in the Central Authority Catalogue
Please, explore the first version of the site! *(still in progress)*

https://parsifal.urbe.it/parsifal/home?l=en
Third party integration - Outbound Connectors Architecture

Data flows into Share-VDE from libraries, institutions and third-party sources (e.g. VIAF, ISNI, FAST)

The Share-VDE knowledge base (Sapientia) contains the integrated/clustered/enriched entities.

Data is mainly edited through JCricket, the Share-VDE entity editor.
FOLIO Integration: high-level milestones

Level 1: Instance correlation

- Folio inventory instances are retained in dedicated faces of Share-VDE prisms
- The inbound connector receives FOLIO data (instances) and feeds the Cluster Knowledge Base (CKB)
- The outbound connector communicates back data changes to FOLIO

Level 2a: Agents (and works) correlation

- Same interaction as above, but using authority records (agents, works), instead.

Level 2b: JCricket UI App in FOLIO

- Using the FOLIO built-in “pluggable” nature, the FOLIO UI SDK and the Share-VDE (GraphQL) API
The Share-VDE Ontology
Special Thanks

I’d like to begin by acknowledging the work of the Share-VDE SEI group for their collaborative editing of the Share-VDE Ontology. The efforts for a version one took about six months of collaboration.

Casalini Libri/@Cult Tiziana Possemato, Anna Lionetti
Library of Congress Kevin Ford, Nate Trail
National Library of Finland Marja-Liisa Seppälä
National Library of Medicine Nancy Fallgren
National Library of Norway Oddrun Ohren, Trine Adolfsen
New York University Charlene Chou, Everett Allgood, Matthew Wise, Alexander Whelan
Smithsonian Libraries and Archives Jackie Shieh
Stanford University Libraries Nancy Lorimer
The British Library Alan Danskin, Corine Deliot
University of Alberta Library Ian Bigelow
University of Chicago Libraries Thomas Dousa
University of Pennsylvania Jim Hahn, Chair
Vanderbilt University Alicia C. Zalusky
Yale University Youn Noh, Timothy Thompson
The Share-VDE Ontology is developed as an extension to BIBFRAME.
Goals

1) use web ontology language (OWL) to publish the classes, properties and constraints that are used in the Share-VDE environment;

2) clarify the relationship among Share-VDE entities and other linked data vocabularies and

3) provide internal (to Share-VDE) and external (to BIBFRAME) consistency and clarity to classes and properties used in Share-VDE.
An overarching design principle is to re-use existing vocabularies wherever possible to reduce complexity of the Share-VDE ontology.
The ontology editing process began by evaluating existing Share-VDE classes and documenting in OWL; moving next to properties; finally, the process concluded by evaluating any needed restrictions for entities.
Conceptual Diagrams to OWL RDF/XML

Core model:
- svde:Work
- svde:Opus
- svde:hasExpression
Conceptual Diagrams to OWL RDF/XML

Core model:
svde:OpusType,
svde:hasOpusType
<!-- https://svde.org/ontology/Work -->

<Class rdf:about="https://svde.org/ontology/Work">
  <rdfs:subClassOf rdf:resource="http://id.loc.gov/ontologies/bibframe/Work"/>
  <rdfs:label>Work</rdfs:label>
  <skos:definition>The svde:Work is defined by a constellation of elements representing the specific intellectual or artistic form that an Opus takes each time it is "realised." Individuals of the class svde:Work hold an Opus entity identity.</skos:definition>
  <svde:closeMatch rdf:resource="http://iflastandards.info/ns/lrm/lrmer/E3"/>
  <svde:closeMatch rdf:resource="http://rdaregistry.info/Elements/c/C10006"/>
</Class>
<!-- https://svde.org/ontology/Opus -->
<Class rdf:about="#https://svde.org/ontology/Opus">
  <disjointWith rdf:resource="#https://svde.org/ontology/Work"/>
  <terms:relation rdf:resource="#http://id.loc.gov/ontologies/bibframe/Hub"/>
  <rdfs:label>Opus</rdfs:label>
  <skos:definition>The svde:Opus is a distinct conceptual outcome of artistic or intellectual activity. The highest level of abstraction in Share-VDE, an Opus is an entity that permits the grouping of works that are considered functional or near equivalents. The Opus is defined by a constellation of elements that form the shared content of works and provides a grouping for svde:Work entities.</skos:definition>
  <skos:note>The svde:Opus class is not the same as the bf:Hub class.</skos:note>
  <skos:scopeNote>The Opus may be a piece of art, literature, music, a scientific result, or a creation within some other artistic or intellectual domain.</skos:scopeNote>
  <svde:closeMatch rdf:resource="#http://iflastandards.info/ns/lrm/lrmer/E2"/>
  <svde:closeMatch rdf:resource="#http://rdaregistry.info/Elements/c/C10001"/>
</Class>
<!-- https://svde.org/ontology/Opus -->

<Axiom>
  <annotatedSource rdf:resource="https://svde.org/ontology/Opus"/>
  <annotatedTarget rdf:resource="http://id.loc.gov/ontologies/bibframe/Hub"/>
  <skos:comment>While the bf:Hub and svde:Opus are not the same, there is a relation among these classes in the sense they gather bf:Work entities by bf:hasExpression/svde:hasExpression, respectively.</skos:comment>
</Axiom>
Share-VDE RDF/XML Core Class

<!-- https://svde.org/ontology/OpusType -->

<Class rdf:about="https://svde.org/ontology/OpusType">
  <rdfs:label>OpusType</rdfs:label>
  <skos:definition>Individuals of the OpusType class support identification of Opus categories.</skos:definition>
</Class>
Share-VDE RDF/XML Object Properties

<!-- https://svde.org/ontology/hasOpusType -->

<ObjectProperty rdf:about="https://svde.org/ontology/hasOpusType">
   <rdfs:subPropertyOf rdf:resource="https://svde.org/ontology/hasType"/>
   <rdfs:domain rdf:resource="https://svde.org/ontology/Opus"/>
   <rdfs:range rdf:resource="https://svde.org/ontology/OpusType"/>
   <rdfs:label>hasOpusType</rdfs:label>
</ObjectProperty>
<!-- https://svde.org/ontology/hasType -->

<ObjectProperty rdf:about="https://svde.org/ontology/hasType">
  <rdfs:subPropertyOf rdf:resource="http://rdaregistry.info/Elements/u/P60944"/>
  <rdfs:label>hasType</rdfs:label>
  <skos:definition>The svde:hasType is an intermediate property that may be specialized by entity.</skos:definition>
</ObjectProperty>
Share-VDE RDF/XML Object Properties

<!-- https://svde.org/ontology/hasExpression -->

<ObjectProperty rdf:about="https://svde.org/ontology/hasExpression">
  <rdfs:domain rdf:resource="https://svde.org/ontology/Opus"/>
  <rdfs:range rdf:resource="https://svde.org/ontology/Work"/>
  <rdfs:label>hasExpression</rdfs:label>
  <svde:closeMatch rdf:resource="http://iflastandards.info/ns/lrm/lrmer/R2"/>
  <svde:closeMatch rdf:resource="http://rdaregistry.info/Elements/w/P10078"/>
</ObjectProperty>
<!-- https://svde.org/ontology/inHub -->

<ObjectProperty rdf:about="https://svde.org/ontology/inHub">
  <rdfs:subPropertyOf rdf:resource="http://id.loc.gov/ontologies/bibframe/relatedTo"/>
  <svde:usageNote>A bf:Hub may be related to one or many svde:Works.</svde:usageNote>
  <svde:useDomain>svde:Work</svde:useDomain>
  <svde:useRange>bf:Hub</svde:useRange>
</ObjectProperty>
Share-VDE RDF/XML Annotations

<!-- https://svde.org/ontology/closeMatch -->

<AnnotationProperty rdf:about="https://svde.org/ontology/closeMatch">
   <rdfs:label>close match to</rdfs:label>
   <skos:definition>Refers to a semantically similar entity (typically class or property) in another ontology or scheme.</skos:definition>
</AnnotationProperty>
Access the Share-VDE Ontology


Note: we anticipate adding the set of OpusType individuals and providing additional clarity to the relationship of the bf:Hub within Share-VDE during the summer months and publish the version 1 Share-VDE Ontology shortly thereafter.
Use cases and models for participation
Use case #1: Discovery

- **Search vs. Discovery**
- **IFLA LRM user tasks:** find, identify, select, obtain, explore
  - *Explore:* To discover resources using the relationships between them and thus place the resources in a context
- **Researcher exploration development of topic ideas**

**Civil rights movement**

1954–1968 U.S. social movement against institutional racism

“The civil rights movement was a political movement and campaign from 1954 to 1968 in the United States to abolish institutional racial segregation, discrimination, and disenfranchisement throughout the United States. The movement had its origins in the Reconstruction era during the late 19th century, although it made its largest legislative gains...” — Wikipedia

<table>
<thead>
<tr>
<th>No.</th>
<th>Image</th>
<th>Concept</th>
<th>Type</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image" alt="Selma to Montgomery marches" /></td>
<td>Selma to Montgomery marches</td>
<td>Demonstration</td>
<td>1965 march for African-American citizens to exercise their constitutional right to vote</td>
<td>Selma, Alabama (USA), Montgomery, Alabama (USA)</td>
</tr>
<tr>
<td>2</td>
<td><img src="image" alt="I Have a Dream" /></td>
<td>I Have a Dream</td>
<td>Speech</td>
<td>1963 speech delivered by Martin Luther King Jr.</td>
<td>Lincoln Memorial, Washington, D.C. (USA)</td>
</tr>
</tbody>
</table>
Selma, Alabama (USA)

City in and county seat of Dallas County, Alabama, United States

"Selma is a city in and the county seat of Dallas County, in the Black Belt region of south central Alabama and extending to the west. Located on the banks of the Alabama River, the city has a population of 17,971 as of the 2020 census. About 80% of the population is African-American." — Wikipedia

### Events that took place here

<table>
<thead>
<tr>
<th>No.</th>
<th>Image</th>
<th>Concept</th>
<th>Type</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image1.png" alt="Selma to Montgomery marches" /></td>
<td>Selma to Montgomery marches</td>
<td>Demonstration</td>
<td>1965 march for African-American citizens to exercise their constitutional right to vote</td>
<td>Selma, Alabama (USA)</td>
</tr>
<tr>
<td>2</td>
<td><img src="image2.png" alt="Battle of Selma" /></td>
<td>Battle</td>
<td>Battle</td>
<td>Battle of the American Civil War</td>
<td>Selma, Alabama (USA)</td>
</tr>
</tbody>
</table>
Martin Luther King Jr.

American civil-rights activist and leader (1929–1968). Born in Atlanta (Ga.). Died in Memphis (Tenn.).

“Martin Luther King Jr. was an American Baptist minister and activist, one of the most prominent leaders in the civil rights movement from 1955 until his assassination in 1968. An African American church leader and the son of early civil rights activist and minister Martin Luther King Sr., King advanced civil rights for people of color in the United States.” — Wikipedia

Related topics and events

1. COINTELPRO
   Government program
   Series of covert, and often illegal, projects conducted by the U.S. FBI
Another Discovery example:

Live demo
Share-VDE: how to participate?

- UX-UI group
  - Review/user testing of interface
  - Topics: Usability and Accessibility; Universal design; Consistency of design and navigation
  - Review of reported errors
Use Case #2: Linked Data Use and Reuse

- Linked Open Data
- Data Enrichment
- Data Reuse
Use Case #3: Shared Data Pool

- Shared Data → Shared Collections
- Collective strength
Writing tricksters: mythic gambols in American ethnic literature

Volume. Published in English in 1997 in Berkeley.

Contributors:
Jeanne Rosier Smith (author) and University of California Press (publisher)

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Responsibility statement: Jeanne Rosier Smith.
System control number: (OCoLC)-M34772090, (OCoLC)ocm34772090
Share-VDE: How to participate?

- Member libraries become part of the shared data pool
- Contribute your MARC date to enrich the whole
- SEI group
  - Ontology development
Future perspectives and JCricket demo
**JCricket entity editor - What it does**

- Integrated in the discovery portal web interface, for authenticated users
- User types: basic and advanced
- Entities aggregate data from different contributing libraries (aka Provenances):
  - ★ an entity is also called Prism, where each face represents data coming from a given Provenance
JCricket entity editor - What it does

Edit function to change entities’ properties
- add, remove and amend attributes, relationships and links belonging to a single entity
- real time notifications about cluster property changes

Merge function: reconcile multiple entities into one (e.g. two authors who are in fact the same person)
- choose the properties to copy to the merged entity
- multiple phases: create the merge list, edit the merge list, edit clusters, request for review, approve (or deny) the merge
JCricket entity editor - What it does

Split and Create functions: move one or more properties between two entities; optionally create a new one

★ choose the properties to move from entities

★ properties can be moved from an entity to create a brand new one

★ multiple phases: create the split-set, edit the split-set, edit clusters, request for review, approve (or deny) the split
JCricket entity editor - What it does

- **Review workflow**: edits are reviewed by advanced editors
  - ★ notifications to manage the review workflow

- **Dictionary API**: what are the available cluster types? Which attributes belong to a cluster type?
  - What cardinality? Which relationships?

- **Entity Event Log**: tracks the history of changes

- **Data changes synchronization** across SVDE storages (e.g. RDF Store, Search Engine, RDBMS)
Why JCricket is valuable

- A collaborative tool, shared across the Share Family community and improving the data created within it
- Linked data conversion in a shared discovery environment and direct entity management capabilities in one place
- Increases data quality where massive automated processes are necessarily lacking
- Collaboration ensures higher quality and authoritativeness of data
- Conceived by SVDE and Share Family community, i.e. real users
- Potentially complementary to other tools, e.g. Sinopia - as they cover different aspects of the entity management flow
- Could potentially support other workflows and connections with systems external to the Share Family
- You can always track back to your data through the Provenance
- JCricket will extend authority capabilities through the integration with external data sources such as Wikidata
Where we are now

★ The back-end APIs that manage JCricket behind the scenes are ready ✔

★ The respective front-end functions for the end users to actually use JCricket are under development 📝
  ○ progressive releases through 2023
Next generation cataloguing

The JCricket editor is an example of how the LOD Platform technology, within the Share Family Linked Data Ecosystem, is pursuing a new way of managing library cataloguing in a cooperative way:

- aggregation of data from multiple sources
- managed through standard protocols (linked data)
- in a collaborative and integrated environment
- that makes available open data and resources
- to end users and professionals (researchers, scholars etc.)
- for reuse in the library community and beyond
JCricket references

Useful references:

- JCricket overview
- for more technical details on JCricket
  https://wiki.share-vde.org/w/images/e/e8/JCricket_entity_editor_presentation.pdf
- on how JCricket has been conceived
Thank you!

To discuss this further, please contact info@svde.org
Members of the Advisory Council would be happy to meet with you