Share-VDE and the Share Family
Cooperation and innovation
to bring Linked Open Data into practice


https://www.share-family.org/
https://wiki.svde.org
info@svde.org
Share-VDE background and the Share Family
Stepping stones

2016

Share Catalogue online

2017

Share-VDE prototype

2018

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

2019

2019-2021 Share-VDE - environment for library LOD

2021

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)

Parsifal launch

2021-ongoing NatBib WG and shared discovery environment

Share Family - towards production

2021-ongoing PCC data pool

Program for Cooperative Cataloging
## Share-VDE and Share Family - Linked Data Ecosystem: Principles

<table>
<thead>
<tr>
<th>CO-OPERATIVE</th>
<th>INTEROPERABLE</th>
<th>FLEXIBLE</th>
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<tbody>
<tr>
<td><strong>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.</strong></td>
<td><strong>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.</strong></td>
<td><strong>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.</strong></td>
</tr>
<tr>
<td>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.</td>
<td>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.</td>
<td>The quality of data is guaranteed both through advanced technical processes and through collaborative data modeling, enrichment and sharing, handled collectively by member organizations.</td>
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### Share-VDE and Share Family - Linked Data Ecosystem: Processes

<table>
<thead>
<tr>
<th>DATA INPUT FROM INSTITUTIONS</th>
<th>LOD PLATFORM SERVICES</th>
<th>RESULTS</th>
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<tbody>
<tr>
<td>MARC21 bib. and holding</td>
<td>Mapping</td>
<td>[Data Publication]</td>
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<tr>
<td>MARC21 aut.</td>
<td>URI Enrichment</td>
<td>• End user discovery portals for each initiative of the Share Family</td>
</tr>
<tr>
<td>UNIMARC</td>
<td>Reconciliation</td>
<td>• Search APIs for data consumption (GraphQL, REST, SPARQL)</td>
</tr>
<tr>
<td>RDF/BIBFRAME</td>
<td>Creation of Linked Data Entities</td>
<td>+</td>
</tr>
<tr>
<td>Other formats (eg. FOLIO)</td>
<td>Conversion to RDF/BIBFRAME</td>
<td>[Data Distribution]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• API / protocols for third parties integration (eg. local LSPs and data editor such as Wikidata, Sinopia BIBFRAME editor, FOLIO etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Downloadable datasets (BIBFRAME/RDF, MARC enriched records)</td>
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<tr>
<td></td>
<td></td>
<td>[Shared Data Management]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Editing of Share Family entities with JCricket</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reuse of Share Family BIBFRAME data in local library systems</td>
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<tr>
<td></td>
<td></td>
<td>• Reuse of Share Family MARC representations in local library systems</td>
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<tr>
<td></td>
<td></td>
<td>[Additional Services]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Authority control in MARC and BIBFRAME-based workflows</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• SFI - Share Family Index: registry of entity URIs</td>
</tr>
</tbody>
</table>
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 https://www.share-family.org and the dedicated Share-VDE wiki section.
Share-VDE - Virtual Discovery Environment

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

https://www.svde.org
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/
PCC Catalogue in Linked Open Data

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
Share Art, Share Music, Share MIA

Three pilot projects for shared Linked Open Data environments in the domains of Art, Music and Manuscripts, Incunabula and Ancient books
Share Family tenant infrastructure

- Share-VDE discovery portal and institutional skins
  - Share-VDE portal
  - Penn institutional skin portal
  - other institutional skin portals

- Share-Catalogue libraries
  - Share-Catalogue portal
  - Share-Catalogue discovery interface
  - Share Family tenant infrastructure

- Parsifal libraries
  - Parsifal discovery interface
  - Parsifal CKB

- NatBib libraries
  - NatBib discovery interface
  - NatBib CKB

- PCC libraries
  - PCC data pool discovery interface
  - PCC data pool CKB

- Enrichment with external sources (VIAF, ISNI, LCSH, FAST etc.)
- SVDE libraries original records
- Share-VDE libraries original records
- Share-Catalogue libraries original records
- Parsifal libraries original records
- National bibliographies original records
- PCC libraries original records

- Entity registry

- JCRICKET Sapientia CKB
- JCRICKET Share Catalogue CKB
- JCRICKET Parsifal CKB
- JCRICKET NatBib CKB
- JCRICKET PCC data pool CKB

- INDEX
Main updates on Working Groups and cooperation
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
Share-VDE Advisory Council

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 **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.
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:

- definition of SVDE Ontology;
- svde:Work is subclass of bf:Work → this ensures interoperability;
- 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 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.

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
Principles

An overarching design principle is to re-use existing vocabularies wherever possible to reduce complexity of the Share-VDE ontology.

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
Editing the 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

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
Conceptual Diagrams to OWL RDF/XML

Core model:
- svde:OpusType
- svde:hasOpusType

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
Share-VDE RDF/XML Core Class

<!-- 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/1rm/1rmer/E3"/>
  <svde:closeMatch rdf:resource="http://rdaregistry.info/Elements/c/C10006"/>
</Class>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
<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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
Share-VDE RDF/XML Core 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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
Share-VDE RDF/XML Object Properties

<!-- 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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
<!-- 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>

Credits: Jim Hahn, Head of Metadata Research, Penn Libraries, from the presentation at the Share-VDE Workshop on 26th June 2023; slides available at https://bit.ly/SVDE_Workshop2023_slides
\(-- \text{https://svde.org/ontology/closeMatch} \)--

\[\text{<AnnotationProperty} \text{rdf:about=}\text{"https://svde.org/ontology/closeMatch"}>\]
\[\text{<rdfs:label}>close\text{ match to</rdfs:label>}\]
\[\text{<skos:definition>Refers to a semantically similar entity (typically class or property) in another ontology or scheme.</skos:definition>}\]
\[\text{<rdfs:subPropertyOf} \text{rdf:resource=}\text{"http://purl.org/dc/terms/relation"/>}\]
\[\text{</AnnotationProperty>}\]

**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.
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 **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.
Cluster Knowledge Base Editor WG

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).
Main updates on developments
Different tenants, different configurations

Share-VDE discovery portal and institutional skins

- Share-VDE portal
- Penn institutional skin portal
- Other institutional skin portals

Share-Catalogue discovery interface

- Share-Catalogue libraries
- Libraries original records

Parsifal discovery interface

- Parsifal libraries
- Libraries original records

NatBib discovery interface

- National bibliographies
- Libraries original records

PCC data pool discovery interface

- PCC libraries
- Libraries original records

Enrichment with external sources (VIAF, ISNI, LCSH, FAST etc.)

Entity registry

- SVDE Sapientia CKB
- Share-VDE libraries
- Original records

Entity registry

- Share-Catalogue CKB
- Share-Catalogue libraries
- Original records

Entity registry

- Parsifal CKB
- Parsifal libraries
- Original records

Entity registry

- NatBib CKB
- National bibliographies
- Original records

Entity registry

- PCC data pool CKB
- PCC libraries
- Original records
Default configuration: SVDE and PCC data pool

Simple search default configuration on [SVDE](#) and [PCC data pool](#) portals
Default configuration: British National Bibliography

Simple search default configuration on Natbib tenant and the BNB - British National Bibliography skin

(*): Note: the skin for the British National Bibliography is a preview of a beta site.
Default simple search configuration: the BNB

Simple search default configuration on Natbib tenant and the BNB - British National Bibliography skin* is set to Publications search, instead of the SVDE default.

This was done to comply with a different requirement whereby for the data stored in this tenant (ie. national bibliographies) it’s meaningful to direct users to publications.

Different communities or types of institutions might need customised features

(*) Note: the skin for the British National Bibliography is a preview of a beta site.
Institutional skin portals within a tenant

- While the main entity discovery portal of a tenant shows the data of all the institutions feeding the tenant’s Cluster Knowledge Base, the skin portal gives the ability to filter only the data of the institution that the skin portal has been designed for.

- To this aim, the “held at” filter was added, allowing to filter publications by what is available at the current library. It is enabled on skin portals at Publication (= Instance) level in these cases:
  - in advanced search, see e.g. NYU data pre-filtered here https://nyu.svde.org/advanced-search/publications?q=(title+does_not_contain+xyz)&heldAtLibrary=true (see the toggle on the right of the screen, you can turn it on / off)
  - in the Original work entity page that lists Publications, see e.g. https://nyu.svde.org/suite-de-la-mancha-flute-cello-piano-unknown-author-o781654264663247/library-publications (see the toggle on the right of the screen, you can turn it on / off)
  - in simple search results in cases where the simple search default on the home page is the Publication simple search (e.g. Natbib tenant)
Example: institutional skin portals in SVDE

- **SVDE tenant** - [https://svde.org](https://svde.org) => with LC’s authority data and the bibliographic data of member institutions
  - skin portals including: Penn, Smithsonian, Stanford, University of Alberta, New York University, National Library of Norway, National library of Finland (other skin portals will be set up following the load of libraries’ catalogues to svde.org)
JCricket Editor - The Entity Management System
What JCricket is

✅ it’s a linked data entity 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 (even if new entities can be created!)

❌ not in contrast with other tools eg. 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)
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
The Big Picture: from Genesis to Edit

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 searchable through the entity discovery portal.

Data is mainly edited through JCricket, the Share-VDE entity editor.

Any third-party, authorized application can be a Share-VDE editor or reader.
Properties: Attributes, Relationships, Links

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Provenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>title</td>
<td>Alice in wonderland</td>
<td>Dbpedia</td>
</tr>
<tr>
<td>titleAlternative</td>
<td>Alice's adventures under ground</td>
<td>Library Stanford</td>
</tr>
<tr>
<td>titleAlternative</td>
<td>Journeys in Wonderland</td>
<td>National Library of Norway</td>
</tr>
</tbody>
</table>

An attribute is a data property, having a literal as value.

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Provenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>sameAs</td>
<td><a href="http://dbpedia.org/resource/Alice%27s_Adventures_in_Wonderland">http://dbpedia.org/resource/Alice%27s_Adventures_in_Wonderland</a></td>
<td>Dbpedia</td>
</tr>
<tr>
<td>sameAs</td>
<td><a href="https://www.wikidata.org/wiki/Q189875">https://www.wikidata.org/wiki/Q189875</a></td>
<td>Wikidata</td>
</tr>
<tr>
<td>sameAs</td>
<td><a href="https://data.bnf.fr/ark:/12148/cb358500385#about">https://data.bnf.fr/ark:/12148/cb358500385#about</a></td>
<td>bnf</td>
</tr>
</tbody>
</table>

A link is a connection between a Share-VDE Prism and an external reference.

<table>
<thead>
<tr>
<th>Name</th>
<th>Provenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>author</td>
<td>Library Stanford</td>
</tr>
</tbody>
</table>

A relationship is a connection between two Share-VDE Prisms.
Prism: Record-Level Provenance

Each record coming from a provenance contributes in building/enriching one or more Share-VDE prisms.

An entity / cluster can be seen as a prism where each face represents data coming from a given provenance.

Each cluster maintains a link to the records it originated from.
JCricket: Edit Scenarios

**Edit**: a property* of a prism is added/updated/deleted

![Diagram showing properties being edited](https://svde.org/opuses/1827349)
![Diagram showing properties being edited](https://svde.org/opuses/920302)

**Merge**: multiple prisms are merged into one

For example, the editor detects multiple prisms that belong to the same entity.

**Split**: a prism is split into multiple prisms

Several entities have been (wrongly) clustered into one.

* properties can be
  - attributes
  - relationships
  - links
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
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
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)
Currently in internal demo environment, updates will follow as soon as it will be available for testing.
JCricket Editor - The Entity Management System
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 ⚠

- Currently in internal demo environment, updates will follow as soon as it will be available for testing
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, ie. 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
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
See the live demos!

JCricket première demo at ALA Conference 2023, during the Share-VDE Workshop:


JCricket demo at the LD4 Conference 2023:
https://www.youtube.com/watch?v=wbrqvWGnvfI

Share Family tenant infrastructure

- The Share Family of initiatives includes different branches and sister projects, supported by the same **LOD Platform technology**. Each branch or project is hosted in a specific tenant of the system architecture with a corresponding specific Cluster Knowledge Base and a dedicated web entity discovery portal.
  - For more details on the Share Family tenant infrastructure see the **Summary of Share Family tenants**.

- In some cases, within a single tenant a customised skin (i.e. a sub-portal of the main entity discovery) can be created to address ad hoc needs of an institution, or group of institutions, willing to expose only their own data or to integrate local services in the Share environment.
  - For example, Share-VDE entity discovery portal at svde.org is one of such tenants, including a pool of data from a number of institutions, and the respective skin portals.
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.

Third party integration - Outbound Connectors Architecture
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
Local services: University of Pennsylvania

Integration with local services, e.g. connection to Alma APIs for Penn circulation services (see the prototype of integration)
Penn integration with local services - lending
Thank you!

info@svde.org
https://svde.org
https://wiki.svde.org/
https://www.share-family.org/