



Development of an RDF-Enabled Cataloguing Tool

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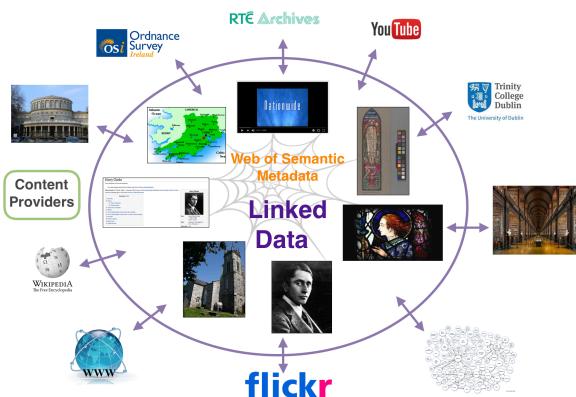
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Semantic Web

- A Web of Data where relationships between data are defined in a common machine readable format.
 - Linked Data (LD) describes the publishing and interlinking of resources to the Semantic Web (SW) using HTTP URIs.
 - The Resource Description Framework (RDF) is a model for representing and exchanging LD on the web as structured data.

Libraries & Linked Data



- Interlinking of authoritative metadata between libraries and other institutional databases.
 - Increased resource visibility and more efficient searching.
 - Limited LD tools available that target the needs of librarians and that are usable for non-technical experts.

Metadata Object Description Schema - MODS

- User-oriented XML schema for a bibliographic element set.
 - Standardised per the Digital Library Federation’s (DLF) MODS implementation guidelines for digital resources.
 - MODS-RDF is an RDF ontology for MODS and it can be used to represent MODS bibliographic data as linked data.

Aim

Design a cataloguing interface for librarians that generates standardised MODS-RDF bibliographic records



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Cataloguing Interface

MSDS Editor - Welcome Page

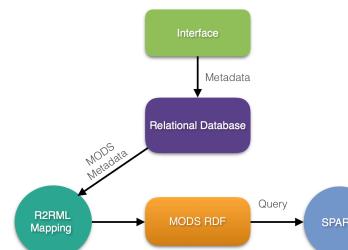
Admin	Title	Name	Type of Resource	Genre	Digital	Language	Physical Description	Abstract	Table of Contents	Note	Subject	Subject 2	Classification	Related Item	Identifier	Location	Access Condition
Smart	Record Info																

Title Information

Fields:

Display Label:	<input type="text"/>	Add Another Attribute >
Non Sort:	<input type="text"/>	Add Attribute >
Title:	<input type="text" value="Larmer from O'Sullivan Bros. to Meeks Harry Davis Standard Case Lot"/>	Add Attribute >
Subtitle:	<input type="text"/>	Add Attribute >
Part Number:	<input type="text"/>	Add Attribute >
Lang:	<input type="text" value="eng"/>	+Plus
Part Name:	<input type="text"/>	Add Attribute >
Save	+Name	

MODS-RDF Output



R2RML Mapping

```

<!--TitleInfo-->
<rr:logicalTable>
  <rr:logicalQuery> "SELECT * FROM TitleInfo WHERE titlType IS NULL" ;
  1 ;
<rr:selectMap>
  <rr:template> "http://data.library.tcd.ie/resource/titleinfo/lid"
  <rr:label> "makeTitle" ;
  <rr:labelType> rr:Literal ;
  1 ;
<rr:preparedStatementMap>
  <rr:preparedStatement> "label" ;
  <rr:label> "rdfs:label" ;
  <rr:labelType> rr:Literal ;
  <rr:label> "title" ;
  <rr:labelType> rr:Literal ;
  1 ;
<rr:label> "uniform" ;
  1 ;
<rr:selectMap>
  <rr:template> "http://data.library.tcd.ie/resource/titleinfo/lid"
  <rr:label> "makeUniform" ;
  <rr:labelType> rr:Literal ;
  1 ;
<rr:preparedStatementMap>
  <rr:preparedStatement> "label" ;
  <rr:label> "rdfs:label" ;
  <rr:labelType> rr:Literal ;
  <rr:label> "title" ;
  <rr:labelType> rr:Literal ;
  1 ;
<rr:label> "isPartOf" ;
  1 ;

```

Querying MODS-RDF - SPARQL

MODS- RDF			
	# p	# o	# e
<http://data.library.tcd.ie/resource/resourceName/>			SELECT DISTINCT ?p ?o WHERE { ?p ?o . ?p https://www.w3.org/2009/08/rdf-schema#label ; ?o "Institution of Civil Engineers of Ireland" .
<http://data.library.tcd.ie/resource/resourceNote/>			
<http://www.w3.org/2009/08/rdf-schema#label>			"In 1865, The Civil Engineers Society of Ireland was found
<http://data.library.tcd.ie/resource/resourceTitleInfo/>			
<http://www.w3.org/2009/08/rdf-schema#label>			"R.W.G. Hindmarsh (1887-1966) lantern slide relating to Pe
<http://data.library.tcd.ie/resource/resourceRelator/>			
<http://www.loc.gov/mads/mardf/v1/relation/constituent>			
<http://data.library.tcd.ie/resource/resourceRelator/>			
<http://www.w3.org/1999/02/22-owl-syntax#type>			
<http://www.w3.org/2008/01/rdf-schema#label>			"Still Image".
<http://data.library.tcd.ie/resource/resourceAbstract/>			
<http://www.w3.org/2009/08/rdf-schema#label>			"This is an abstract".
<http://data.library.tcd.ie/resource/resourceLocation/>			
<http://www.loc.gov/mads/mardf/v1/location/Physical>			
<http://>, <http://digitalcollections.tcd.ie/home/FileManager_id>			
<http://data.library.tcd.ie/resource/resourceDc/>			
<http://www.w3.org/2009/08/rdf-schema#label>			"Kithnah".
<http://data.library.tcd.ie/resource/languageOfResource/>			
<http://www.w3.org/2009/08/rdf-schema#label>			

Conclusion & Future Directions

- LD tools designed specifically with the needs and expertise of librarians in mind has the potential to facilitate increased LD publication by libraries.
 - Collaborate further with the library to explore the possibility of engaging librarians in the process of LD interlinking.