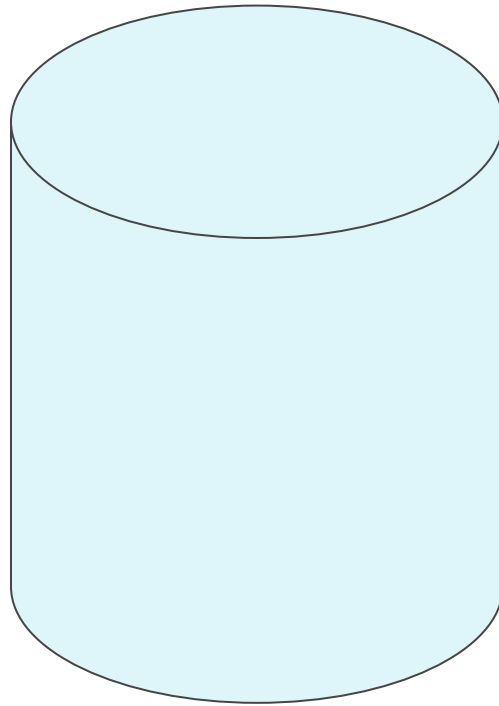




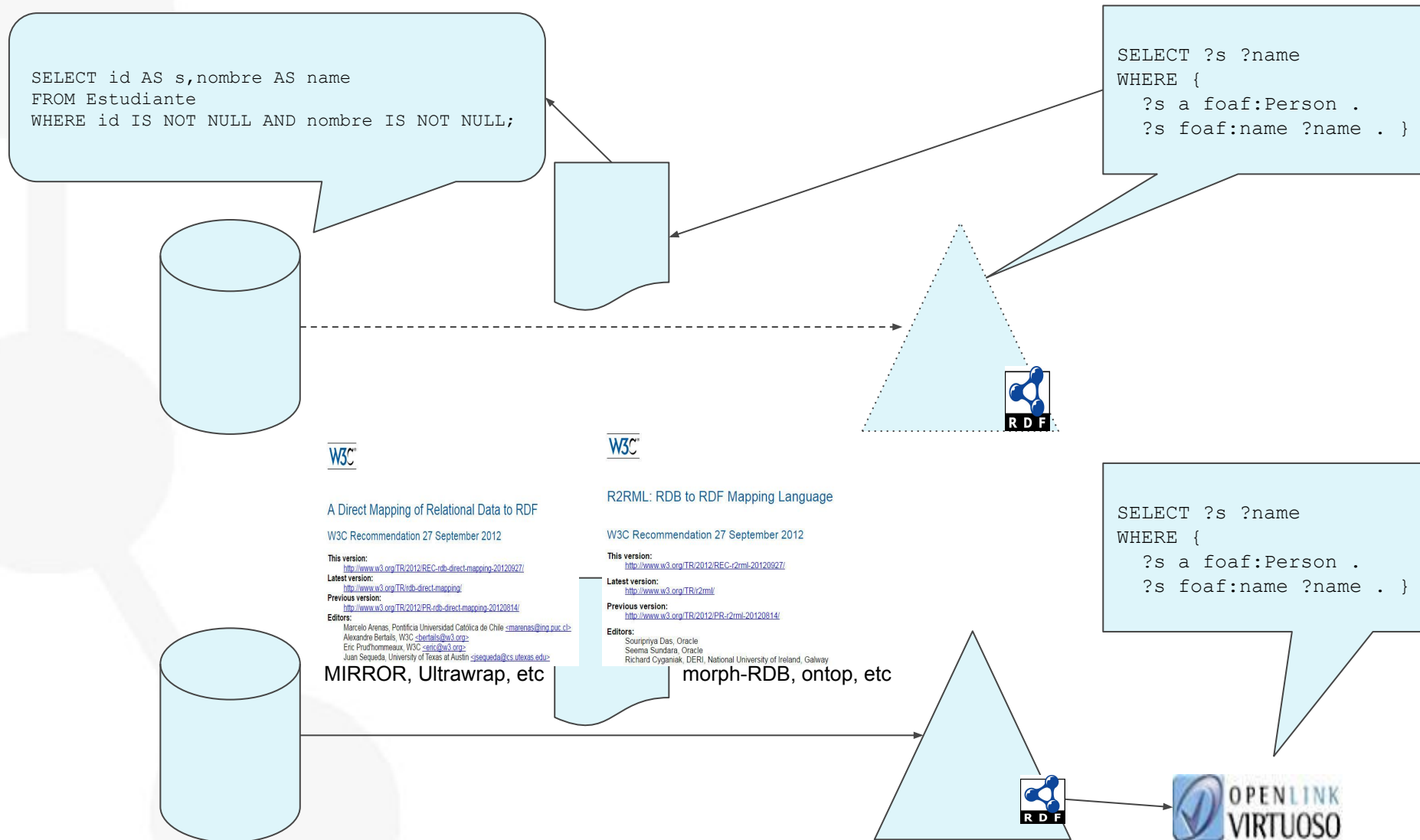
Mappingpedia:

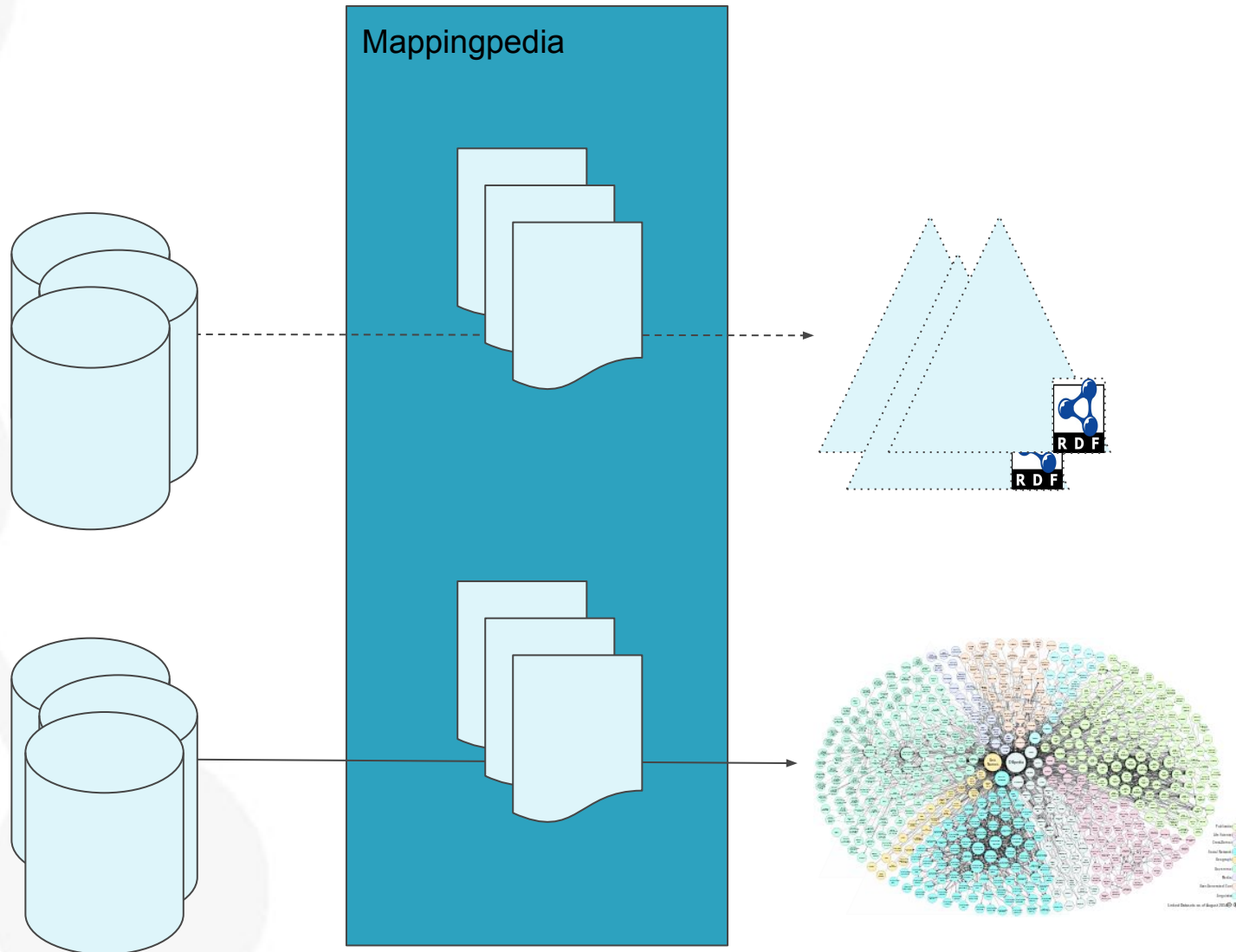
R2RML mappings repository

December 15th, 2016
Nelson, Freddy, Edna



Exodus [RDB2RDF, 2000s]





- MobileAge Project: provision of public services for senior citizens
 - Development Platform (data, annotation, user interface component, etc)
 - Data: Open Government Datasets
 - Annotation: R2RML mappings
- Organizations willing to generate Open Data
- Collaborative work on mappings
 - creating, sharing, reusing

- Dataset
 - `dcatalog:Dataset`, `dcatalog:Distribution`, **etc**
 - probably PROV-O or DCAT-AP
- Table & Column
 - `r2rml:TriplesMap`, `r2rml:SubjectMap`, **etc...**
- Mappingpedia vocabulary (`mpv`)
 - `mpv:R2RMLMappingDocument`, `mpv:hasDataset`, `mpv:hasTriplesMap`, **etc...**

Use cases (*see the distributed materials)

Use Case ID	What the user has/wants to			What the user wants to do	How MappingPedia can help him/her
	Dataset	R2RML Mappings	Ontology		
UC1	No	No	No		
UC2	No	No	Yes		
UC3	No	Yes	No		
UC4	No	Yes	Yes		
UC5	Yes	No	No		
UC6	Yes	No	Yes		
UC7	Yes	Yes	No		
UC8	Yes	Yes	Yes		

**Semantic Web
Developers**

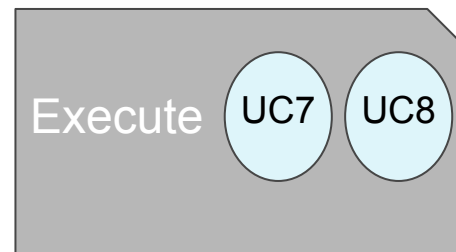
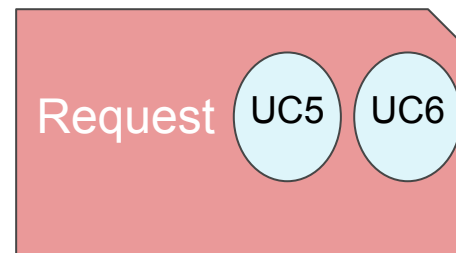
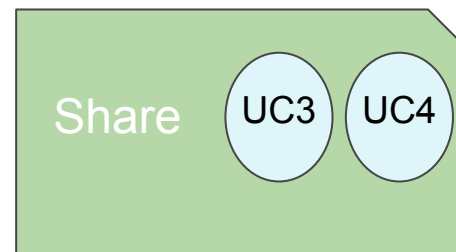
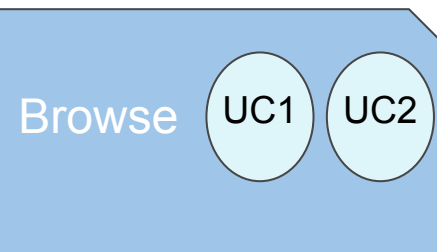
**Data Producers
Inexperienced**

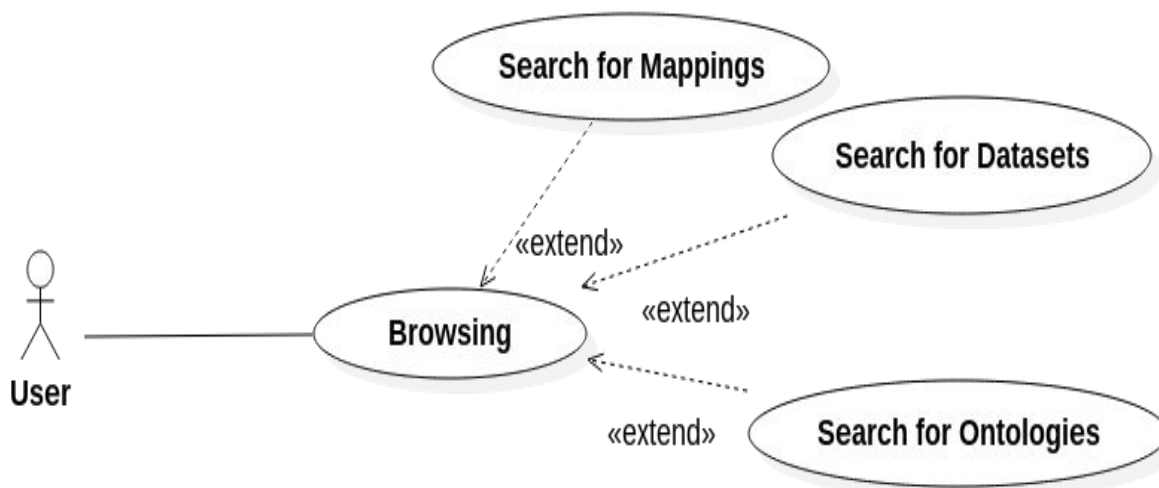
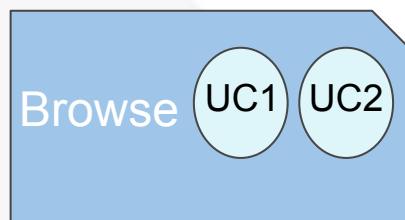
**Data Producers
Experienced**

**Hackathon
Participants**

Students

Data Consumers





What the user has	What the user wants to do	How Mappingpedia can help him
Datasets: No Mappings: No Ontology: Yes/No	<ul style="list-style-type: none"> - Browse to see the available datasets, ontologies and mappings. - Find datasets that correspond to his ontology. 	<ul style="list-style-type: none"> - Mappingpedia permits its users to browse and search for mappings, ontologies and datasets.

Browse Use Cases: Screenshot

The screenshot displays the Ontology Engineering Group search interface. The top navigation bar includes the group logo, a menu icon, and a user profile dropdown. A search bar is prominently featured at the top. Below the search bar, the results section shows 'About 149 results'. The first result is 'R2RML example', created by Nandana Mihindukulasooriya on Nov 16, 2016. It includes sub-sections for 'Datasets Title', 'Datasets Keywords', 'Language', and 'Media Type'. The second result is 'example2', created by ex1_2 on Nov 16, 2016. On the right side, a 'Filters' panel lists various keywords with their respective counts.

Search

Search

About 149 results

R2RML example
Created by - Nandana Mihindukulasooriya
Date Submitted - Nov 16, 2016

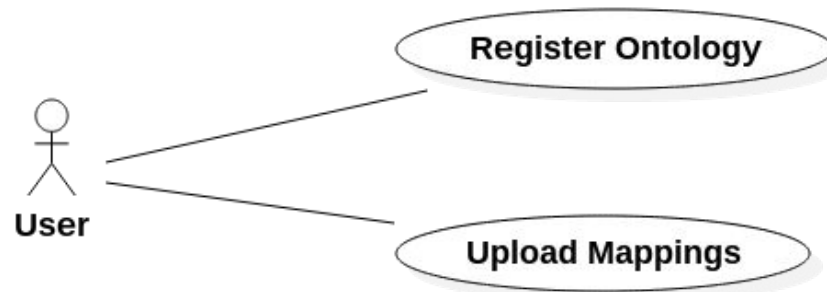
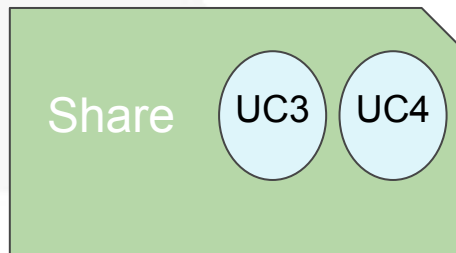
Datasets Title
Datasets Keywords
Language
Media Type

example2
Created by - ex1_2
Date Submitted - Nov 16, 2016

Filters

Keywords

a	(22)
cities	(21)
student	(15)
countries	(15)
madrid	(13)
keywordTest	(13)
keyworddataset1	(9)
keyworddataset2	(9)
World	(8)
City	(7)
Population	(7)
city	(5)
population	(4)
1111	(4)
data	(4)



What the user has	What the user wants to do	How Mappingpedia can help him
Datasets: No Mappings: Yes Ontology: Yes/No	<ul style="list-style-type: none">- Just upload his R2RML Mappings.- Upload his Mappings and register his ontology.	<ul style="list-style-type: none">- Mappingpedia allows its users to upload his mappings and register ontologies.

Share Use Cases: Screenshot

The screenshot displays the MappingPedia web application interface. On the left is a dark sidebar with the 'Ontology Engineering Group' logo at the top. Below the logo, the word 'MAIN' is followed by a list of navigation items: 'Wizard', 'Browser', 'Sharing' (highlighted in teal), 'Requests', and 'Execute Mappings'. The main content area is light gray and features a central white form titled 'Upload R2RML Files'. This form contains several input fields: 'Full name', 'Title', 'Subject', and 'Description'. The 'Mapping File' field shows 'No file selected' with a 'Choose File' button next to it. A note below this field states: 'If you ignore this field, the platform will generate automatically the R2RML file.' At the bottom right of the form is a blue 'Submit' button with a right-pointing arrow. In the top right corner of the application, there is a green circular user profile icon labeled 'User' with a dropdown arrow. At the bottom left of the main content area, the text 'MappingPedia by Ontology Engineering Group' is visible.

Ontology Engineering Group

MAIN

- Wizard
- Browser
- Sharing
- Requests
- Execute Mappings

Upload R2RML Files

Full name

Title

Subject

Mapping File Choose File

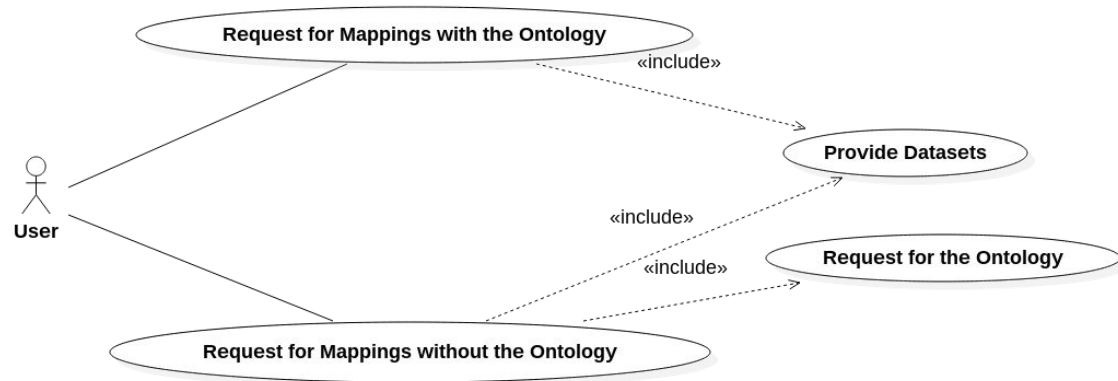
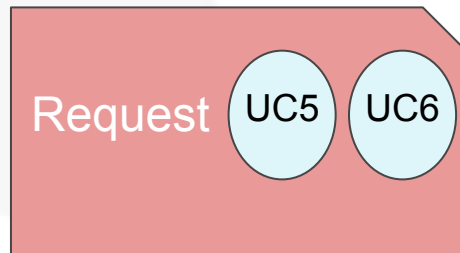
If you ignore this field, the platform will generate automatically the R2RML file.

Description

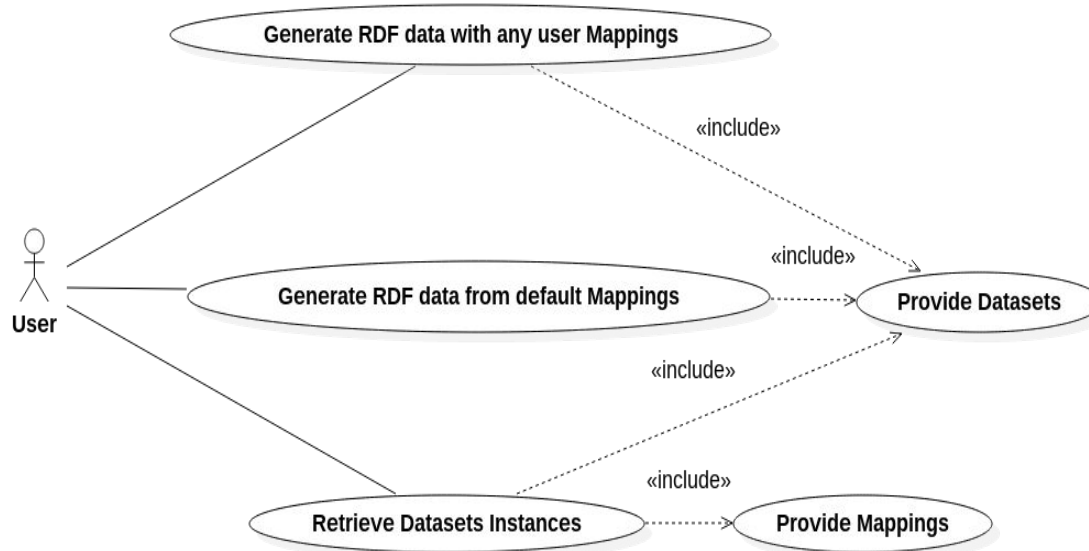
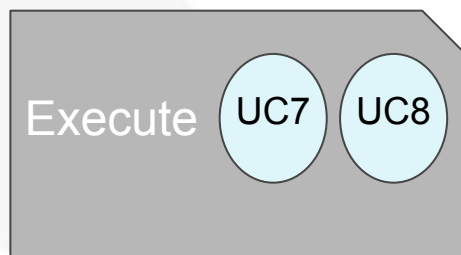
Submit →

MappingPedia by Ontology Engineering Group

Mappingpedia Use Cases (Request)



What the user has	What the user wants to do	How Mappingpedia can help him
<p>Datasets: Yes</p> <p>Mappings: No</p> <p>Ontology: Yes/No</p>	<ul style="list-style-type: none"> - Generate RDF from his datasets, but he doesn't have the mappings. 	<ul style="list-style-type: none"> - Generate default mappings via MIRROR. - Request the ontology corresponding to her dataset and request the mappings.



What the user has	What the user wants to do	How Mappingpedia can help him
<p>Datasets: Yes</p> <p>Mappings: Yes</p> <p>Ontology: Yes/No</p>	<ul style="list-style-type: none"> - Execute his mappings to generate RDF data from his datasets. - To find instances of a certain ontology concept 	<ul style="list-style-type: none"> - Execute R2RML mappings using Morph-RDB. - Generate an SQL query using SPARQL query translation.

Execute Use Cases: Screenshot

The screenshot displays the Ontology Engineer web application interface. On the left is a dark sidebar with a navigation menu. The main content area features a success message and two download buttons. Below these, a section titled 'Triples Generated' shows a list of RDF triples in a light blue background with a 'markup' button on the right.

Navigation Menu:

- MAIN
- Wizard
- Browser
- Sharing
- Requests
- Execute Mappings**

Success Message:

Well done! You successfully execute your mappings.
Download your result file clicking below

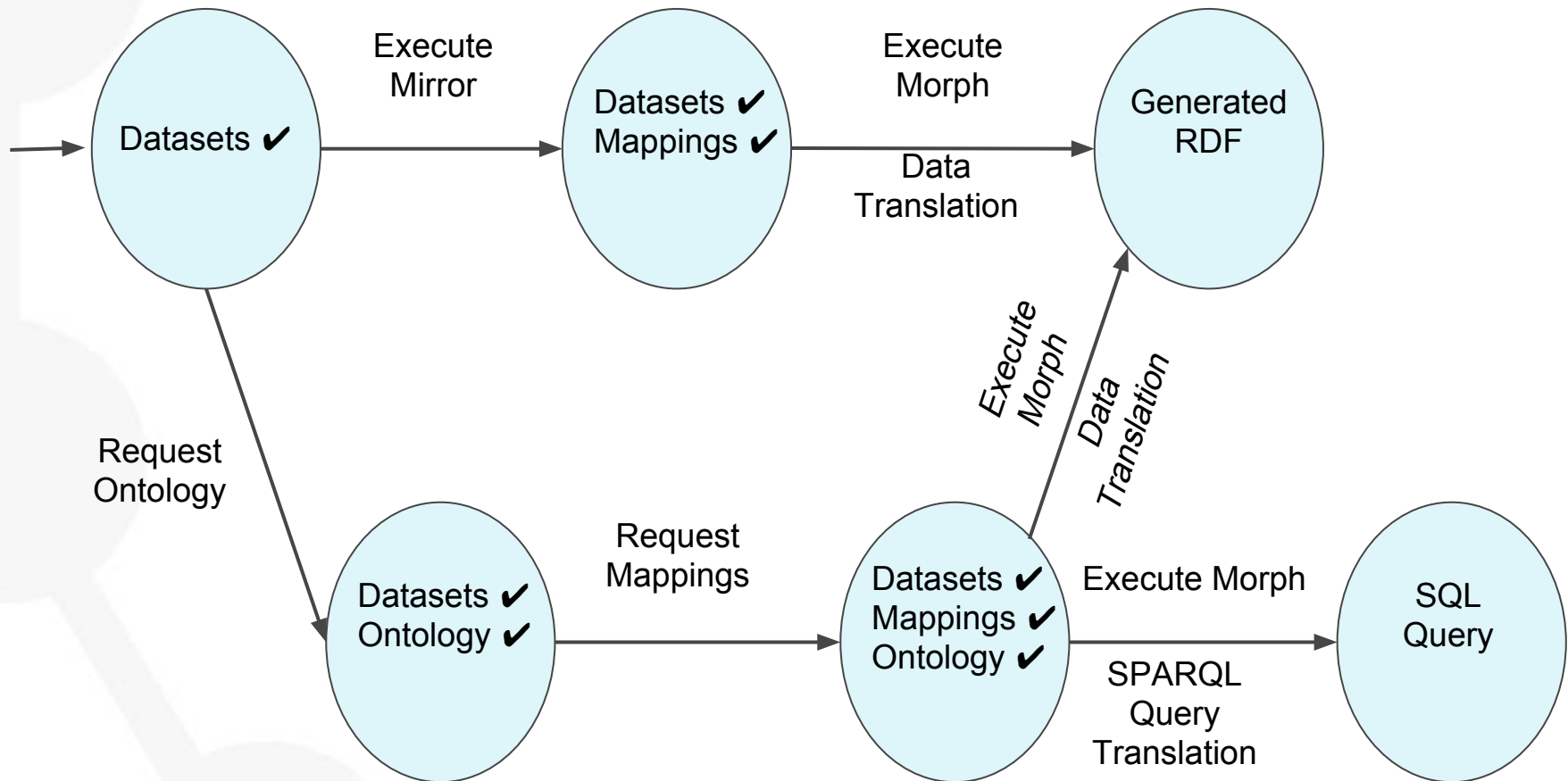
Download Buttons:

- Download RDF Triples
- Download Manifest File

Triples Generated:

```
<http://mappingpedia.linkeddata.es/resources/Sport/100> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type>  
<http://mappingpedia.linkeddata.es/vocabulary/Sport> .  
<http://mappingpedia.linkeddata.es/resources/Sport/100> <http://mappingpedia.linkeddata.es/vocabulary/type> "BOTH" .  
<http://mappingpedia.linkeddata.es/resources/Sport/100> <http://mappingpedia.linkeddata.es/vocabulary/code> <http://localhost/TNS> .  
<http://mappingpedia.linkeddata.es/resources/Sport/100> <http://mappingpedia.linkeddata.es/vocabulary/name> "Tennis" .  
<http://mappingpedia.linkeddata.es/resources/Sport/100> <http://mappingpedia.linkeddata.es/vocabulary/id>  
"100"^^<http://www.w3.org/2001/XMLSchema#integer> .  
<http://mappingpedia.linkeddata.es/resources/Sport/200> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type>  
<http://mappingpedia.linkeddata.es/vocabulary/Sport> .  
<http://mappingpedia.linkeddata.es/resources/Sport/200> <http://mappingpedia.linkeddata.es/vocabulary/type> "INDOOR" .  
<http://mappingpedia.linkeddata.es/resources/Sport/200> <http://mappingpedia.linkeddata.es/vocabulary/code> <http://localhost/CHS> .  
<http://mappingpedia.linkeddata.es/resources/Sport/200> <http://mappingpedia.linkeddata.es/vocabulary/name> "Chess" .  
<http://mappingpedia.linkeddata.es/resources/Sport/200> <http://mappingpedia.linkeddata.es/vocabulary/id>  
"200"^^<http://www.w3.org/2001/XMLSchema#integer> .  
<http://mappingpedia.linkeddata.es/resources/Sport/300> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type>  
<http://mappingpedia.linkeddata.es/vocabulary/Sport> .  
<http://mappingpedia.linkeddata.es/resources/Sport/300> <http://mappingpedia.linkeddata.es/vocabulary/type> "OUTDOOR" .  
<http://mappingpedia.linkeddata.es/resources/Sport/300> <http://mappingpedia.linkeddata.es/vocabulary/code> <http://localhost/SCR> .  
<http://mappingpedia.linkeddata.es/resources/Sport/300> <http://mappingpedia.linkeddata.es/vocabulary/name> "Soccer" .  
<http://mappingpedia.linkeddata.es/resources/Sport/300> <http://mappingpedia.linkeddata.es/vocabulary/id>  
"300"^^<http://www.w3.org/2001/XMLSchema#integer> .  
<http://mappingpedia.linkeddata.es/resources/Person/B1> <http://www.w3.org/1999/02/22-rdf-syntax-ns#type>  
<http://mappingpedia.linkeddata.es/vocabulary/Person> .
```

Mappingpedia Scenarios



- Last 2 months
 - Use Cases completed: UC1, UC3, UC7, UC5-B
 - Used by students Semantic Web UPM course
 - Demo in a MobileAge project meeting in Bremen
- Next 3 months
 - Integration with Loupe (see UC 1)
 - Administration of users and the repository
 - Complete the application (UC2, UC4, UC5-A, UC-6, UC-8)
 - Demo paper ESWC

- RDB2RDF: dataset, ontology, mapping
- Mappingpedia: repository of mappings
 - use cases
 - scenarios
- Future Work: Mapping recommendation
 - By label: table/column name
 - *most of tables `Estudiante` is mapped to class `foaf:Person`*
 - By value: integrating with Ahmad's work
 - *the value in column `X` is most likely about temperature, so you can map it to property `Y`*
- Call for Logo Proposal
 - Ex.: Mappingpedia

- In which real cases would Mappingpedia be useful?
- Do you think that we could add/change/remove any functionality?



Thank You

Gracias

Merci

Terima Kasih

Istuti

شکرا