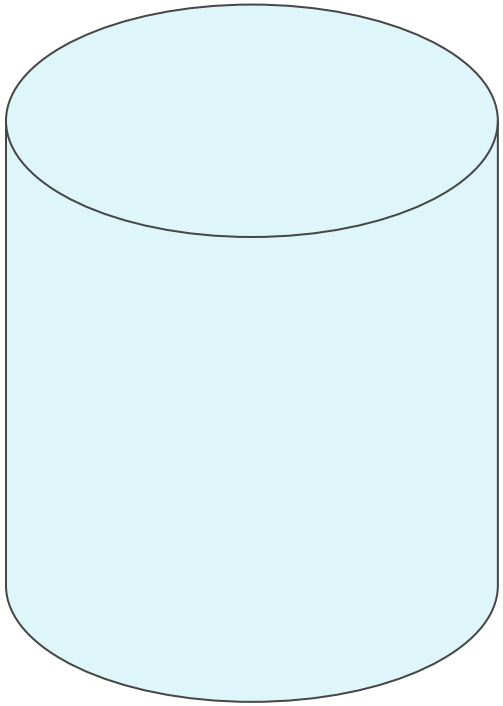
Mappingpedia:

R2RML mappings repository

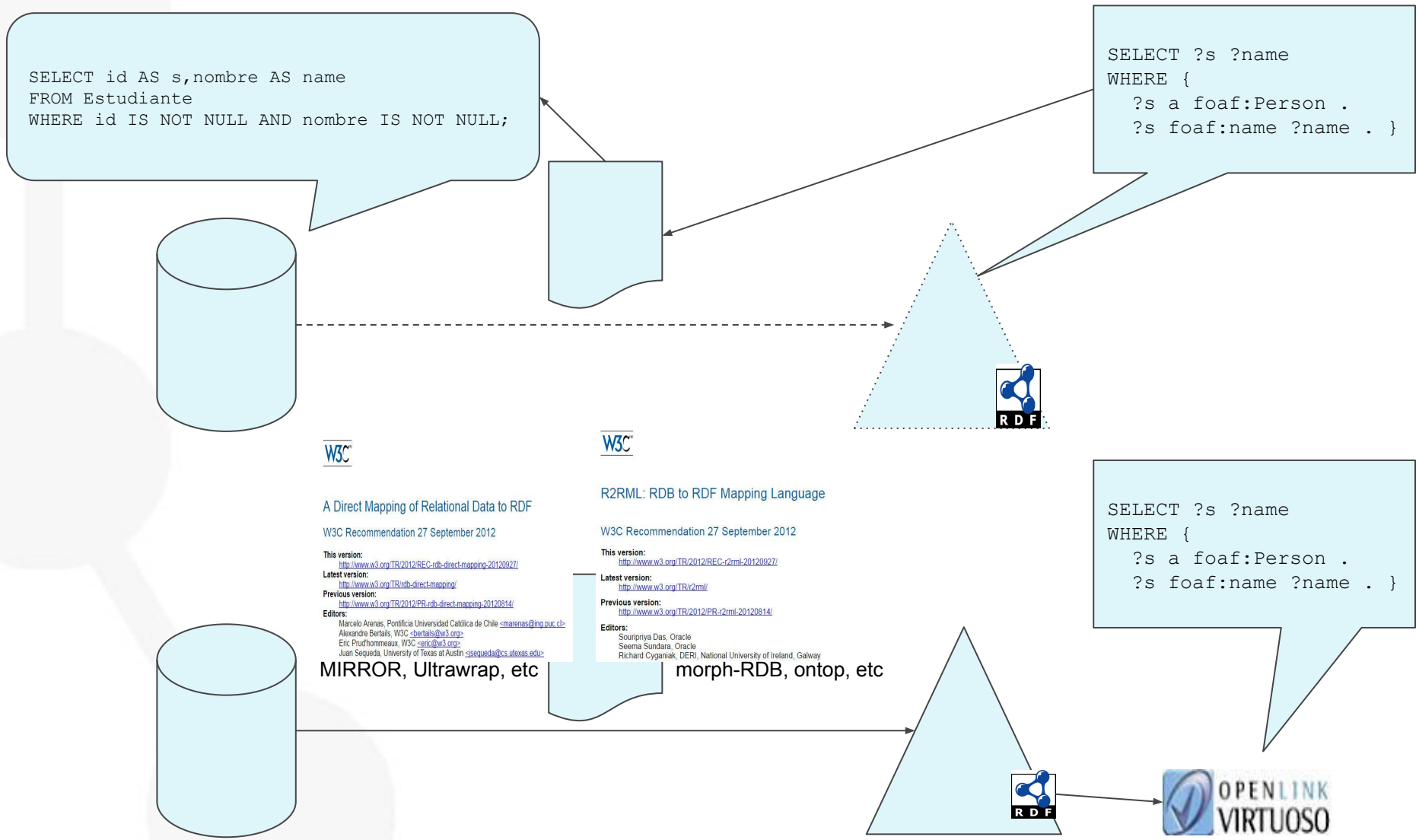
December 15th, 2016

Nelson, Freddy, Edna

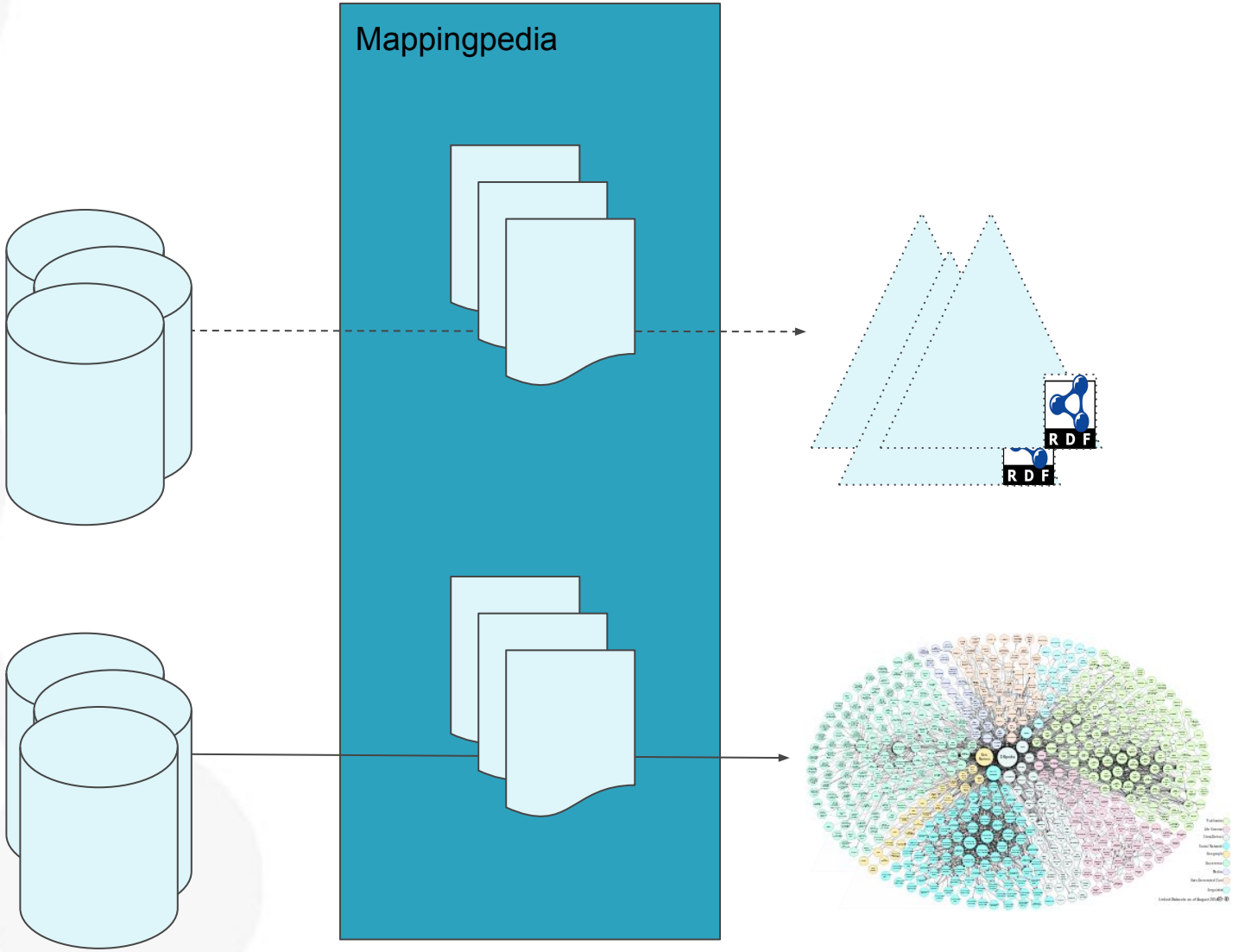
Genesis [RDB, 1970s]



Exodus [RDB2RDF, 2000s]



Numbers [LOD 2000s]



Motivation

- 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

Vocabularies

- Dataset
  - `dcat:Dataset`, `dcat: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		

Users and Activities

Semantic Web Developers

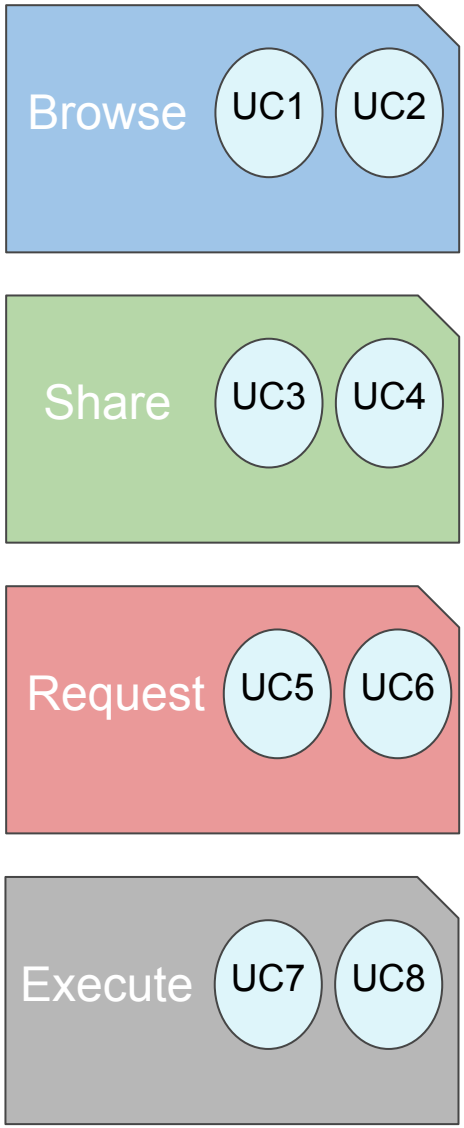
Data Producers Inexperienced

Data Producers Experienced

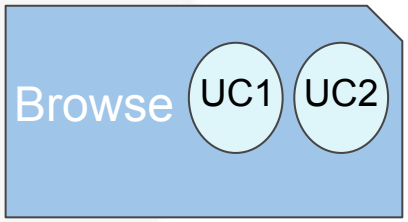
Hackathon Participants

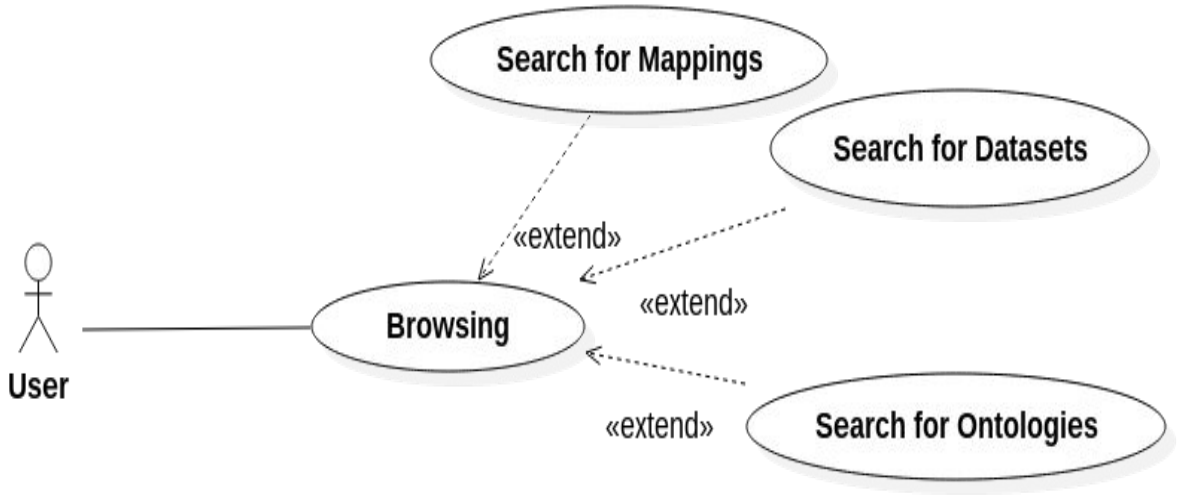
Students

Data Consumers



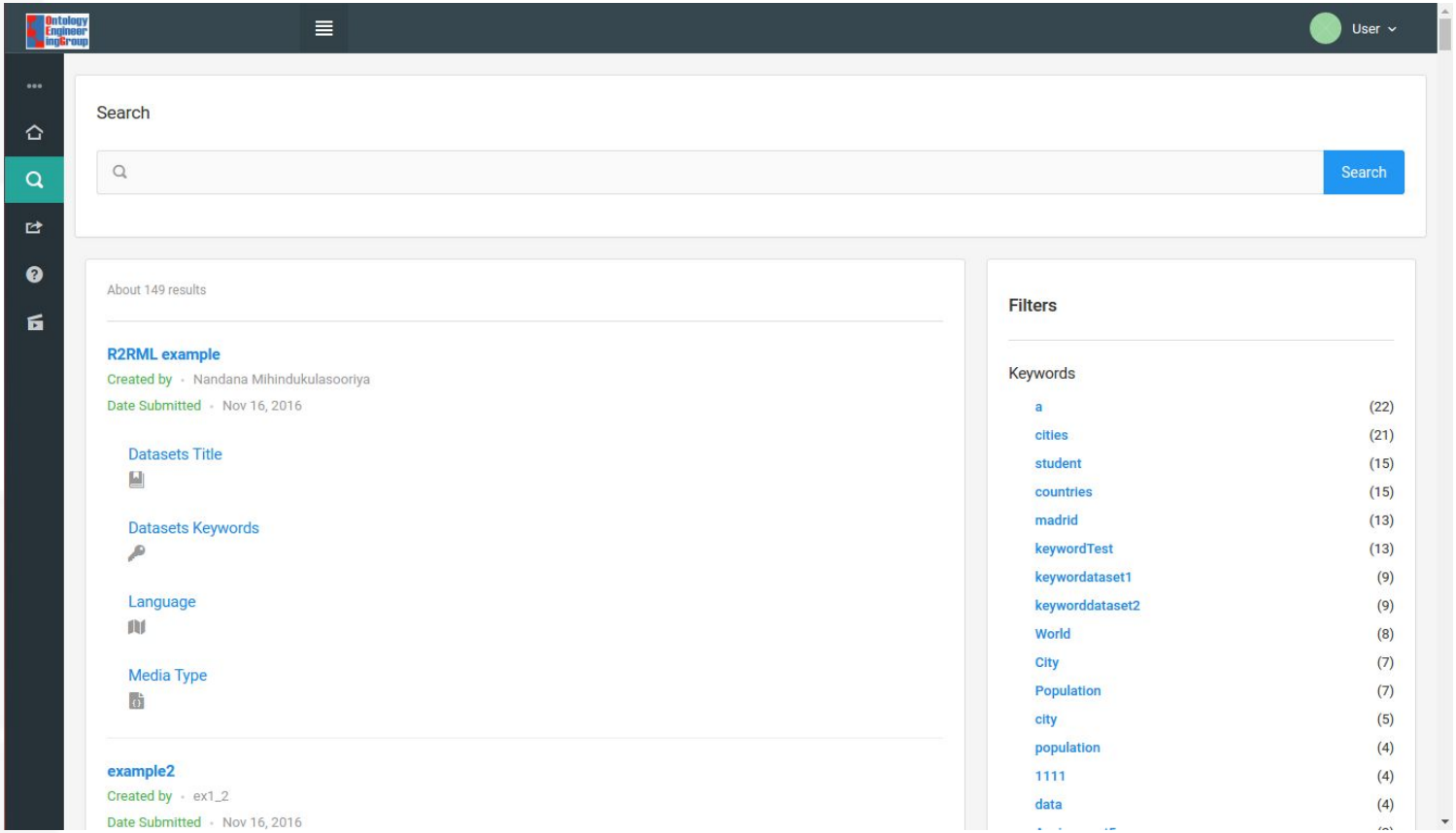
Browse Use Cases



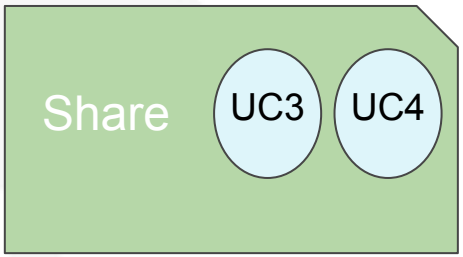


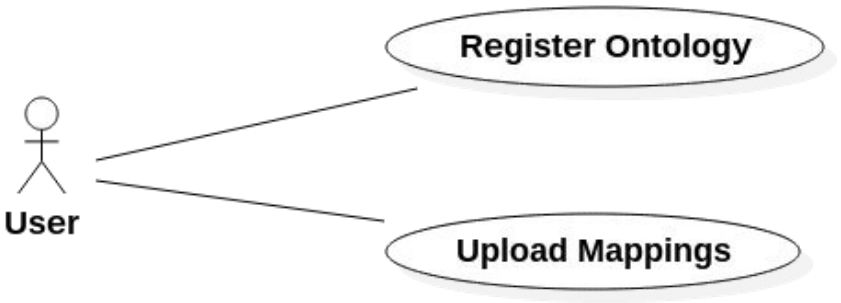
What the user has	What the user wants to do	How Mappingpedia can help him
Datasets: No Mappings: No Ontology: Yes/No	- Browse to see the available datasets, ontologies and mappings. - Find datasets that correspond to his ontology.	- Mappingpedia permits its users to browse and search for mappings, ontologies and datasets.

Browse Use Cases: Screenshot



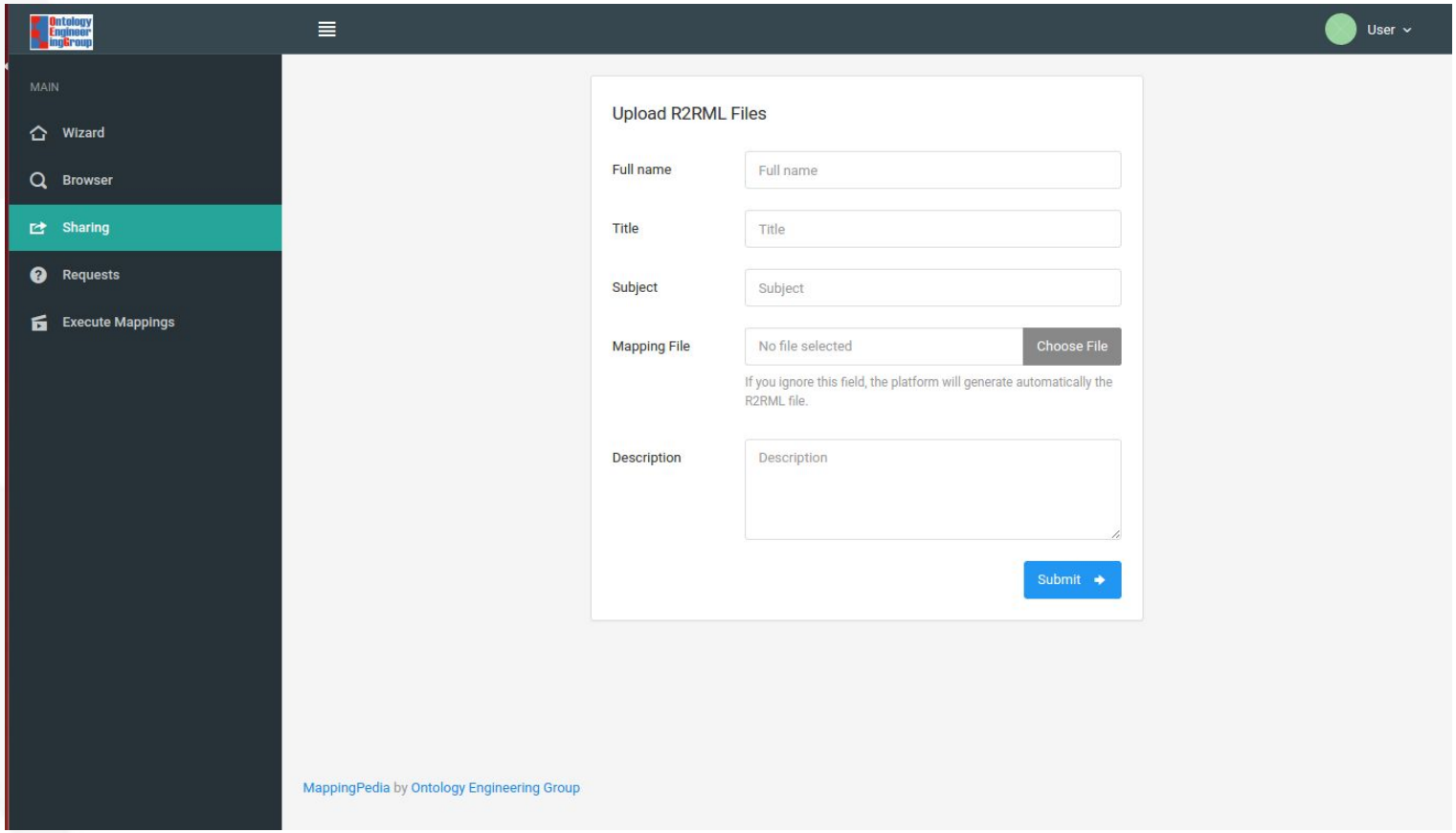
Share Use Cases



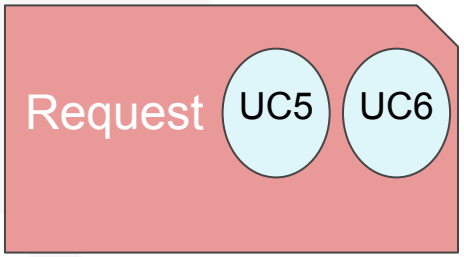


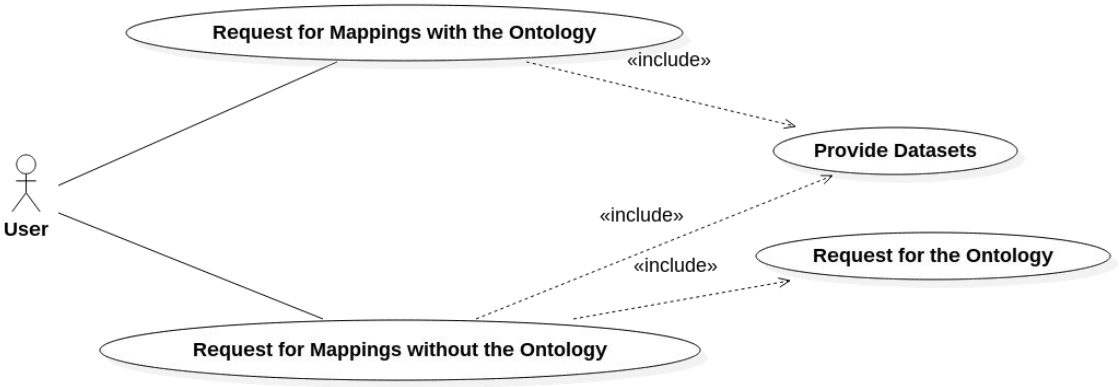
What the user has	What the user wants to do	How Mappingpedia can help him
Datasets: No Mappings: Yes Ontology: Yes/No	- Just upload his R2RML Mappings. - Upload his Mappings and register his ontology.	- Mappingpedia allows its users to upload his mappings and register ontologies.

Share Use Cases: Screenshot



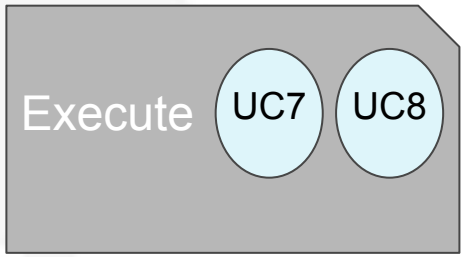
Mappingpedia Use Cases (Request)

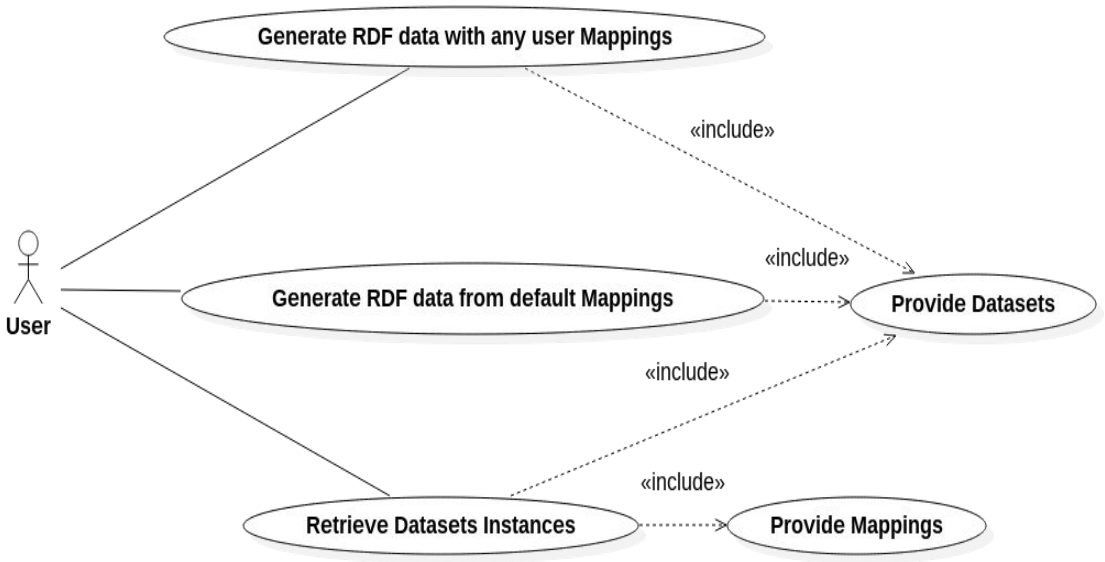




What the user has	What the user wants to do	How Mappingpedia can help him
Datasets: Yes Mappings: No Ontology: Yes/No	- Generate RDF from his datasets, but he doesn't have the mappings.	- Generate default mappings via MIRROR. - Request the ontology corresponding to her dataset and request the mappings.

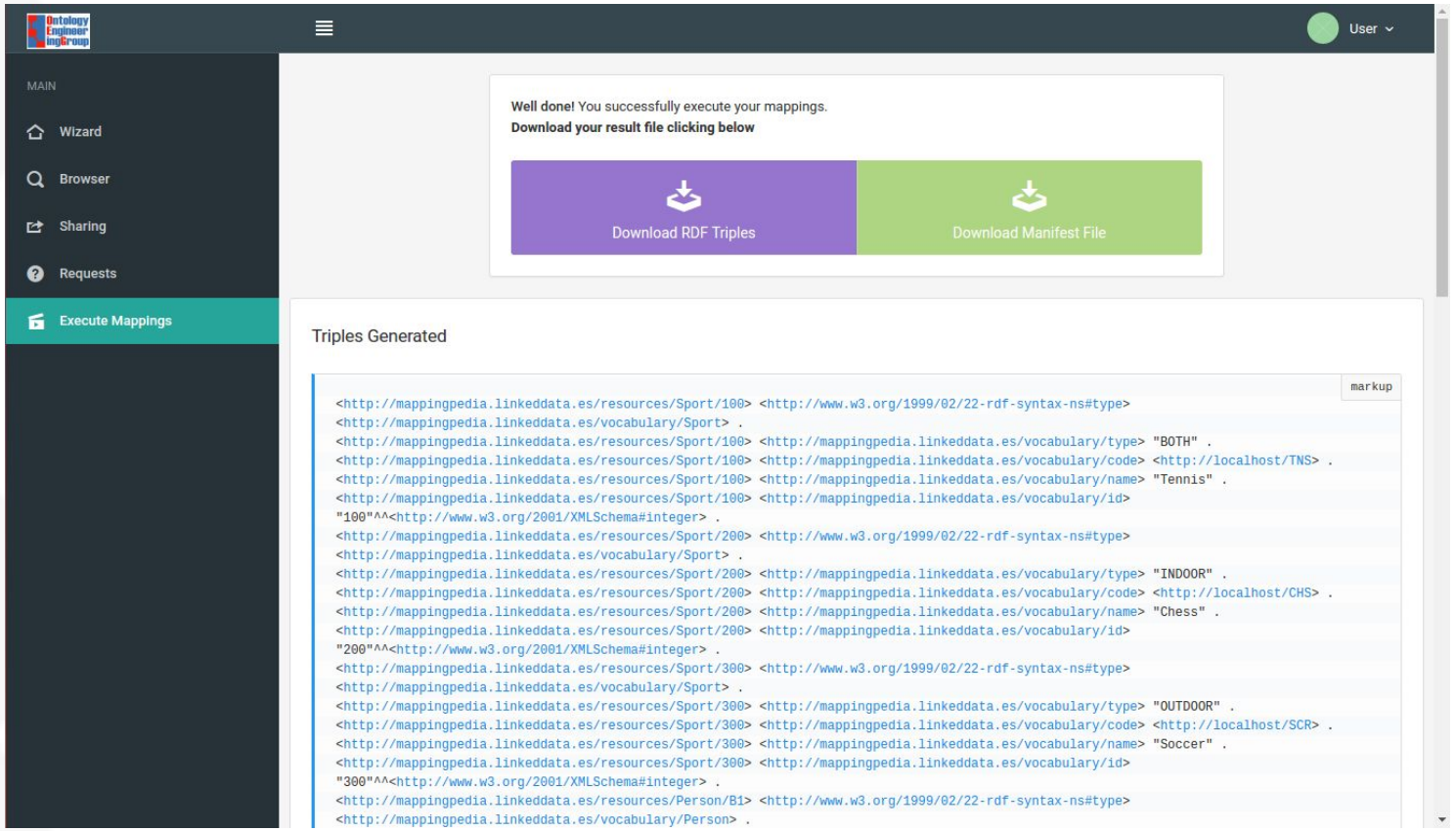
Execute Use Cases



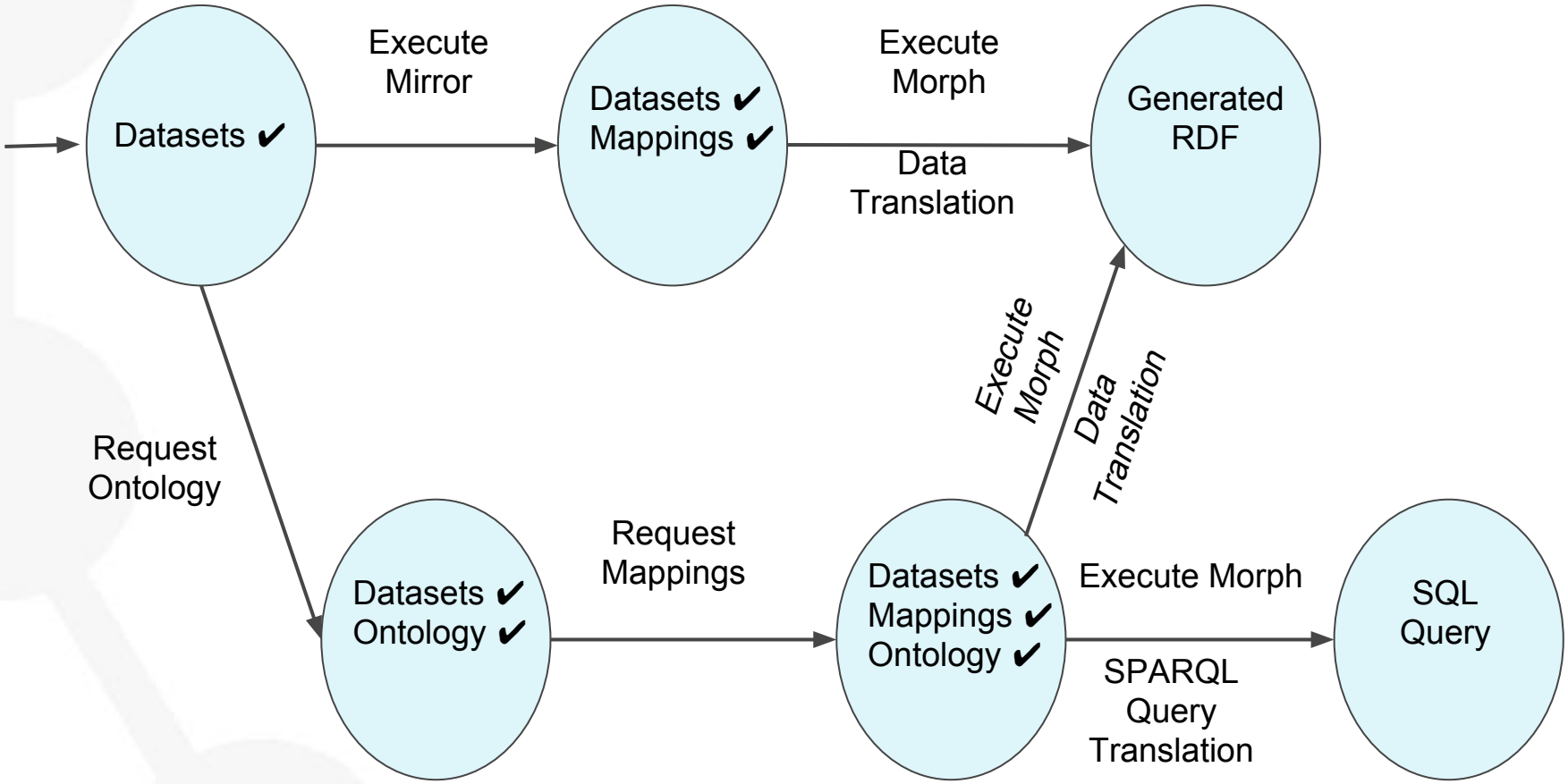


What the user has	What the user wants to do	How Mappingpedia can help him
Datasets: Yes Mappings: Yes Ontology: Yes/No	- Execute his mappings to generate RDF data from his datasets. - To find instances of a certain ontology concept	- Execute R2RML mappings using Morph-RDB. - Generate an SQL query using SPARQL query translation.

Execute Use Cases: Screenshot



Mappingpedia Scenarios



Where are we

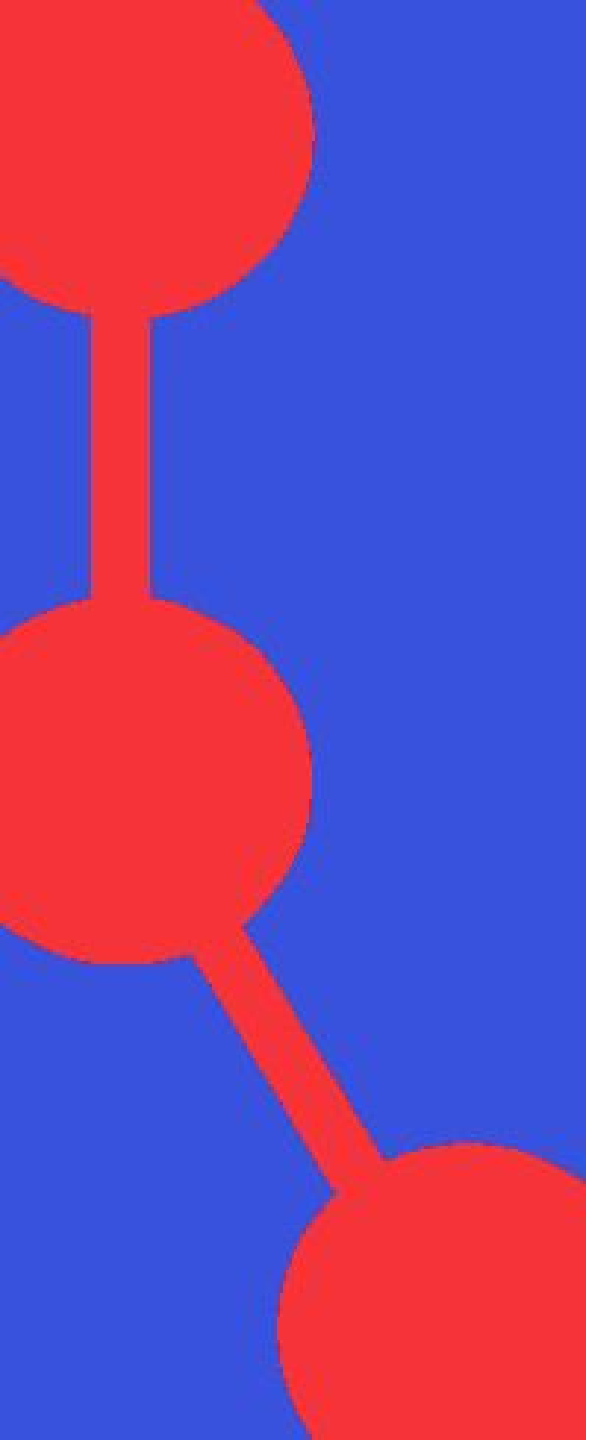
- Last 2 months
  - Use Cases completed: UC1, UC3, UC7, UC5-B
  - Used by students Semantic Web UPM course
  - Demo in a MobileAge project meeting in Bremen
- Next 3 months
  - Integration with Loupe (see UC 1)
  - Administration of users and the repository
  - Complete the application (UC2, UC4, UC5-A,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

Summary and Future Work

- 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

Questions for You

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



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Istuti

Terima Kasih

Thank You

Gracias

Merci