Don Quixote

Records

Selected to illustrate the following:

- Different expressions of the same work
    - translations or other derivatives
    - where the main entry person (creator) is considered to be the original author (in library terminology)
- Other derivations
    - main entry person is not different from the original author
- Publications with augmentations/supplements
    - In addition to the main text there are illustrations, forewords and other additions that are of interest to find
- Works that have parts
    - What we now refer to as the work Don Quixote was originally two different works published separate in time

Records are mainly from National Library of Spain and Bodleian Library (UK) and can be found in Europeana. All records are in MARC and retrieved from the original institutions using Z39.50. Most records include a 856-field with a link to a digital resource with the exception of a few (which are alternative MARC records for comparable resources in Europeana).

FRBRoo modelling

The records have been modelled in three rounds. The first round of modelling was done manually to explore different use of classes and properties. Afterwards, we have used a rule-based interpretation of the MARC records to produce rdf and diagrams[1].

The two different modelling mainly differ in the following way:

Derivation-based

Translations are modelled as a self-contained expression that is the realisation of a ”translation-work” and derivative relationship between the translation-work and the ”original” work.

Realisation-based

Translations are modelled without the use of separate works for each translation. All translation-expressions are realisations of the same work.
Derivations are still used for abridgements/adaptations (see record 016754131)

[1] Using PLANTUML: http://plantuml.sourceforge.net

Other modelling decisions

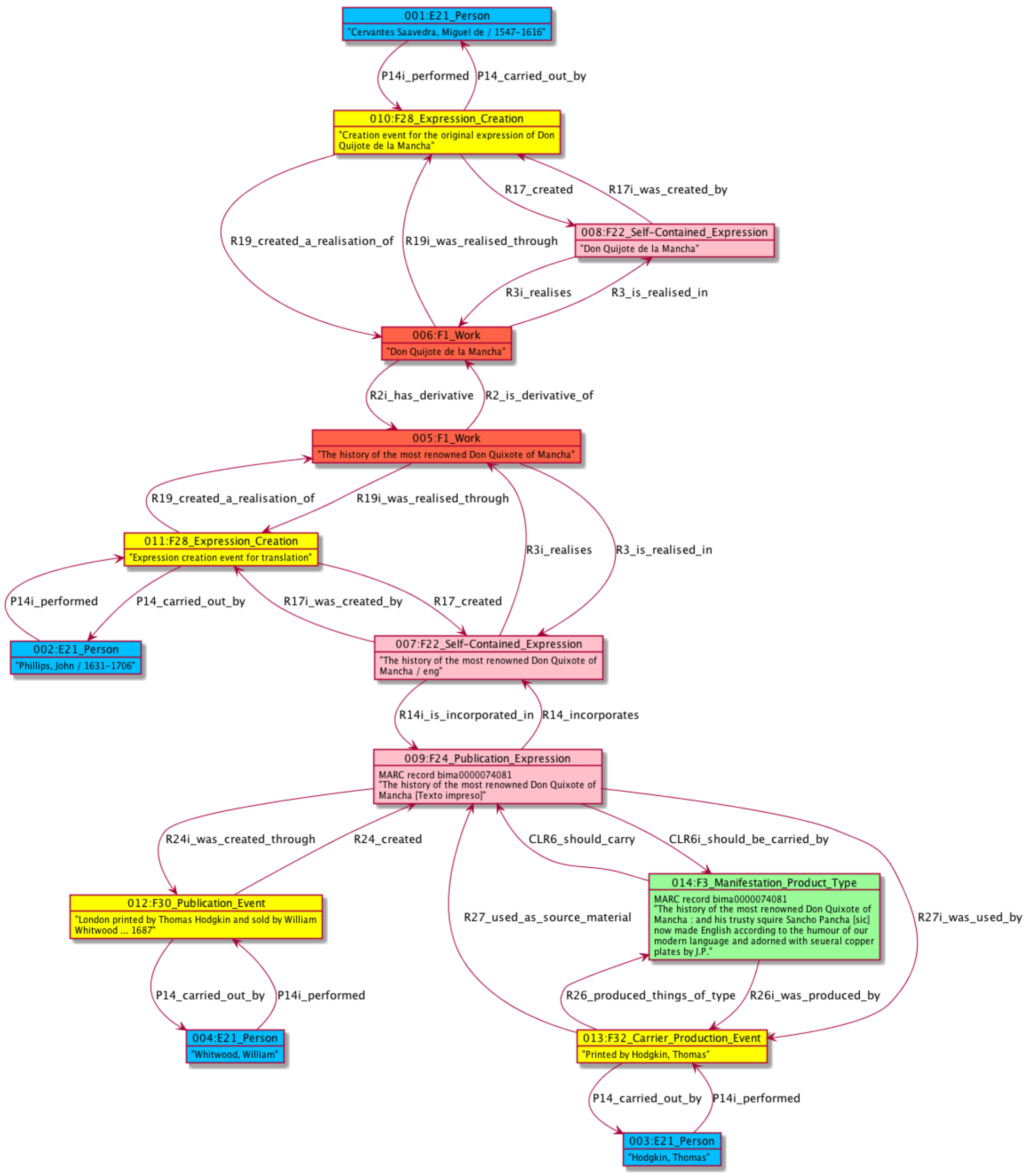
- **Using F1 Work (used in both modelling approaches)**
  We did not come across any issue that required the use of specialisations of F1 Work.
- **Using P148 to relate the part of the work to the whole (used in both)**
  We consider this to be the preferred solution for modelling works with parts. The alternative is to use Complex Work and *has member*, but this is potentially ambiguous because this property can be used for alternatives to other members of the work as well as components of the overall concept.
- **F28 Expression Creation (used in both)**
  Persons are related to works and expressions by the use of F28 Expression Creation Event. This is consistently used in both models for all works.
- **F27 Work Conception (only used in realisation-based models)**
  In the models we needed a way to distinguish between the "original" creator of the "first/representative" expression and creators of subsequent derivations. The first is what we typically consider to be the author and the latter are persons with secondary responsibility (translators etc). This requirement can be solved by using "in the role of" for P14 which means that we need to enhance of use of FRBRoo with an additional type system[2] for P14. As an alternative to this solution we have explored the use of F27 because it potentially is a much easier (and FRBRer-like) way of distinguishing the person we consider as the primary creator from persons that otherwise only are considered to be contributors (in DC-terminology). The current definition, however, of this class implies that it is not intended for this purpose.
- **"Original expressions" (only used in derivation-based models)**
  In the Derivation-based models we have created entities for the "original expressions" in all records. This means that even if the record describes a translation (with an expression created by the translator) we have created an entity for an expression that was created by Cervantes.
  Original expressions are not included in the realisation-based models.
  The main reason for this difference was to explore the effect of this instance when mapping to EDM.
- **Manifestation Product Type and Publication Expression (used in both)**
  All records are modelled using Manifestation Product Type and a Publication Expression that incorporates one or more Self-Contained Expression. We have attempted to identify all additional content from the use of relator codes (but this of course easily creates errors).
- **Always a Self-Contained Expression (both models)**
  To have a consistent use of entities across all records we are always using a Publication Expression that incorporates at least one Self-Contained Expression.

[2] imho this should be avoided for two good reasons. Properties of properties are difficult to implement in rdf and other systems (although it can be solved with subtyping). Secondly, I think it is bad of the FRBRoo model requires that we have to implement and use additional type-systems to express very common information.

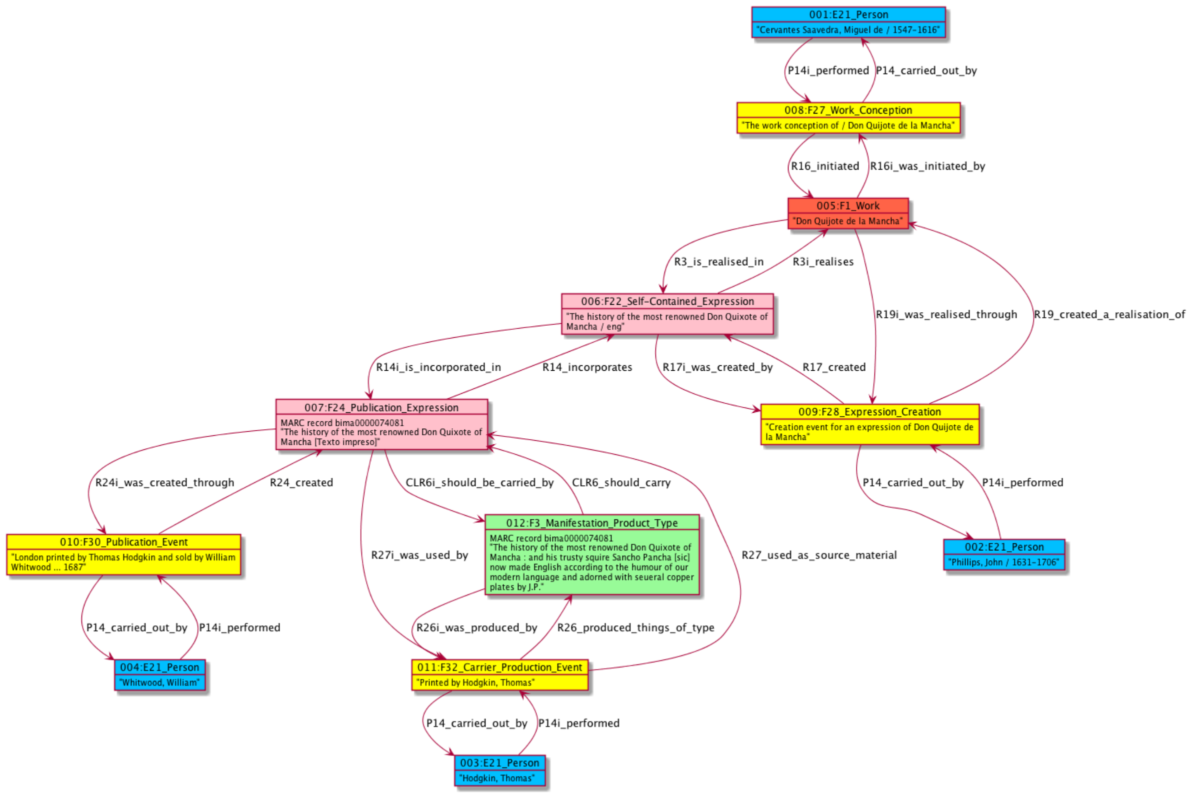
Example FRBRoo models

The following two figures show some of the design choices in our alternative models (see http://november.idi.ntnu.no/frbrized/rest/db/edm/index.html for complete set of records).

Derivation-based


001:E21_Person
"Cervantes Saavedra, Miguel de / 1547-1616"
P14i_performed
P14_carried_out_by
010:F28_Expression_Creation
"Creation event for the original expression of Don Quijote de la Mancha"
R17_created
R17i_was_created_by
008:F22_Self-Contained_Expression
"Don Quijote de la Mancha"
R19_created_a_realisation_of
R19i_was_realised_through
R3i_realises
R3_is_realised_in
006:F1_Work
"Don Quijote de la Mancha"
R2i_has_derivative
R2_is_derivative_of
005:F1_Work
"The history of the most renowned Don Quixote of Mancha"
R19_created_a_realisation_of
R19i_was_realised_through
011:F28_Expression_Creation
"Expression creation event for translation"
R3i_realises
R3_is_realised_in
P14i_performed
P14_carried_out_by
R17i_was_created_by
R17_created
002:E21_Person
"Phillips, John / 1631-1706"
007:F22_Self-Contained_Expression
"The history of the most renowned Don Quixote of Mancha / eng"
R14i_is_incorporated_in
R14_incorporates
009:F24_Publication_Expression
MARC record bima0000074081
"The history of the most renowned Don Quixote of Mancha [Texto impreso]"
R24i_was_created_through
R24_created
CLR6_should_carry
CLR6i_should_be_carried_by
014:F3_Manifestation_Product_Type
MARC record bima0000074081
"The history of the most renowned Don Quixote of Mancha : and his trusty squire Sancho Pancha [sic] now made English according to the humour of our modern language and adorned with seueral copper plates by J.P."
012:F30_Publication_Event
"London printed by Thomas Hodgkin and sold by William Whitwood ... 1687"
R27_used_as_source_material
R27i_was_used_by
P14_carried_out_by
P14i_performed
R26_produced_things_of_type
R26i_was_produced_by
004:E21_Person
"Whitwood, William"
013:F32_Carrier_Production_Event
"Printed by Hodgkin, Thomas"
P14_carried_out_by
P14i_performed
003:E21_Person
"Hodgkin, Thomas"

Realisation-based


001:E21_Person
"Cervantes Saavedra, Miguel de / 1547-1616"
P14i_performed
P14_carried_out_by
008:F27_Work_Conception
"The work conception of / Don Quijote de la Mancha"
R16_initiated
R16i_was_initiated_by
005:F1_Work
"Don Quijote de la Mancha"
R3_is_realised_in
R3i_realises
R19i_was_realised_through
R19_created_a_realisation_of
006:F22_Self-Contained_Expression
"The history of the most renowned Don Quixote of Mancha / eng"
R14i_is_incorporated_in
R14_incorporates
R17i_was_created_by
R17_created
009:F28_Expression_Creation
"Creation event for an expression of Don Quijote de la Mancha"
007:F24_Publication_Expression
MARC record bima0000074081
"The history of the most renowned Don Quixote of Mancha [Texto impreso]"
R24i_was_created_through
R24_created
CLR6i_should_be_carried_by
CLR6_should_carry
P14_carried_out_by
P14i_performed
002:E21_Person
"Phillips, John / 1631-1706"
010:F30_Publication_Event
"London printed by Thomas Hodgkin and sold by William Whitwood ... 1687"
012:F3_Manifestation_Product_Type
MARC record bima0000074081
"The history of the most renowned Don Quixote of Mancha : and his trusty squire Sancho Pancha [sic] now made English according to the humour of our modern language and adorned with seueral copper plates by J.P."
R27i_was_used_by
R27_used_as_source_material
P14_carried_out_by
P14i_performed
R26i_was_produced_by
R26_produced_things_of_type
004:E21_Person
"Whitwood, William"
011:F32_Carrier_Production_Event
"Printed by Hodgkin, Thomas"
P14_carried_out_by
P14i_performed
003:E21_Person
"Hodgkin, Thomas"

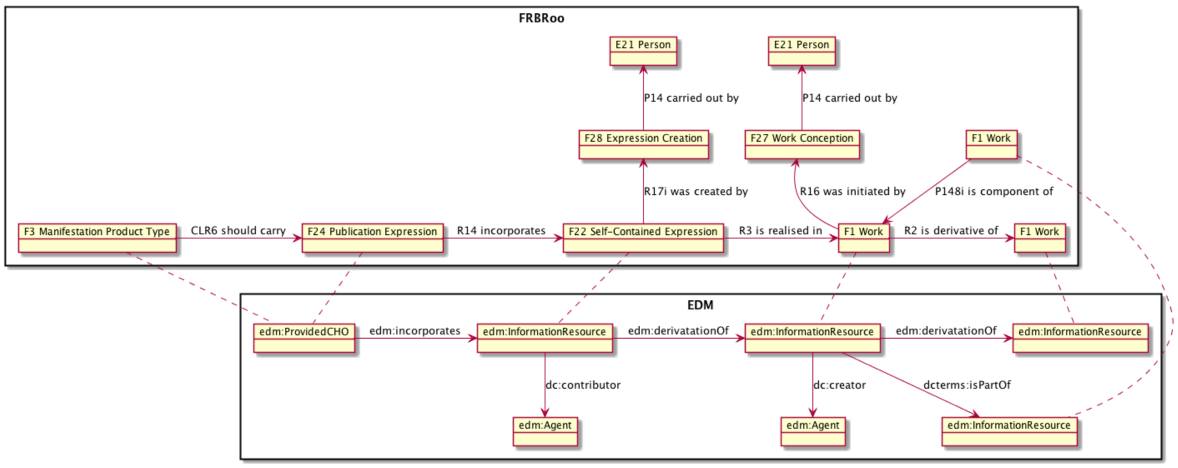
Mapping to EDM

Initial mapping rules

An initial solution for mapping our FRBRoo models to a corresponding EDM representation is shown in the following figure (*this is the mapping used for the realisation-based models. I will make another for the derivation-based models, but they are comparable*). The figure only shows the main entities and properties. Trivial properties (such as extent, publisher, date etc.) are probably rather straight forward to implement a mapping for when the core structure is defined.

Mapping single records is potentially a deceiving process. A solution that applies to one record may cause errors if applied to other records. Mapping from FRBRoo to EDM has to be verified by:

- Applying the mapping to a representative set of records that includes relevant variations
- Additionally, the mapping must be verified by evaluating the result from merging/combining records. Solutions that work well for each record in a set, does not necessarily give the desired result when merging entities from multiple records.



Mapping rules explored

We have explored mapping using FRBRoo records in rdf as input for an XSLT-based mapping procedure. The result of the process is EDM in rdf which then has been transformed to graphs using plantUML.

This is a preliminary description of ideas and challenges:

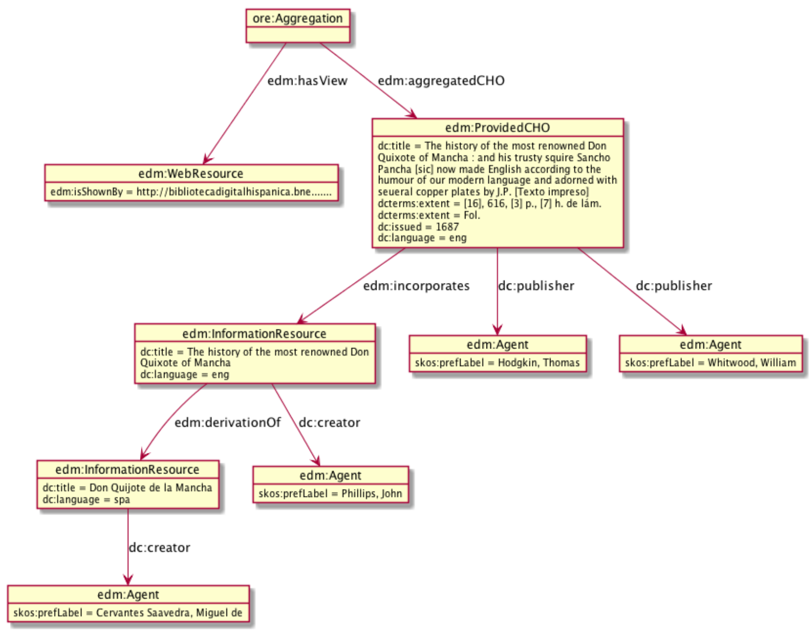
- **edm:ProvidedCHO for F3 and F24**
  Because of the 1:1 relationship between F3 Manifestation Product Type and F24 Publication Expression, both entities can be mapped to a single edm:ProvidedCHO.

- **edm:incorporates and edm:InformationResource**
  Publication Expression that incorporates multiple Self-Contained Expression are mapped using an InformationResource for the Self-Contained Expression.
  PS! Ideally we wanted to avoid using an Information Resource when there is only a single Self-Contained Expression, but it turns out that this creates inconsistencies between records where this expression is the only content and records where this expression is one of several. This is an essential issue that needs some more work.
- **edm:Agent**
  All persons are treated as first class objects and mapped to edm:Agent
- **dc:creator and dc:contributor**
  Persons with primary responsibility for the resource should be expressed as dc:creator (authors eg.) and persons with secondary responsibility should be expressed using dc:contributor.
  For both frbroo-models it turns out to be challenging to determine if person is a creator or contributor. Although it theoretically is possible to reason over the graph-structure, it is not something that we should rely on. The use of Work Conception (as used in the realisation-models) seems to be a relevant and easy solution.
- **mapping F1 Work and F22 Self-Contained Expression to edm:InformationResource instances**
  The use of edm:InformationResource for both F1 Work and F22 Self-Contained Expressions seems to be unproblematic. The graphs should be able to answer queries related to persons names, titles etc regardless of the actual type of instances. The most crucial is that the graph collocates InformationResource and ProvidedCHO instances using relevant properties.
- **Reducing the number of InformationResource objects**
  A straight-forward transformation of FRBRoo models to a corresponding structure based on InformationResource will in some records appear to create redundant objects. This is typically found in the realisation-based models (e.g. see realisation-based edm-model for bima0000007171).
  The reduction of entities was easy to implement for the derivation-based models. In this case we could consistently merge all works and expressions into a single InformationResource. This kind of merging is more difficult to implement consistently for realisation-based models. In some cases we want to have different InformationResources for eg. translation and the work it realises, but in other cases (mainly for the expressions created by Cervantes that realises his own work) it is sufficient to have a single InformationResource. This need to be explored a bit more…..

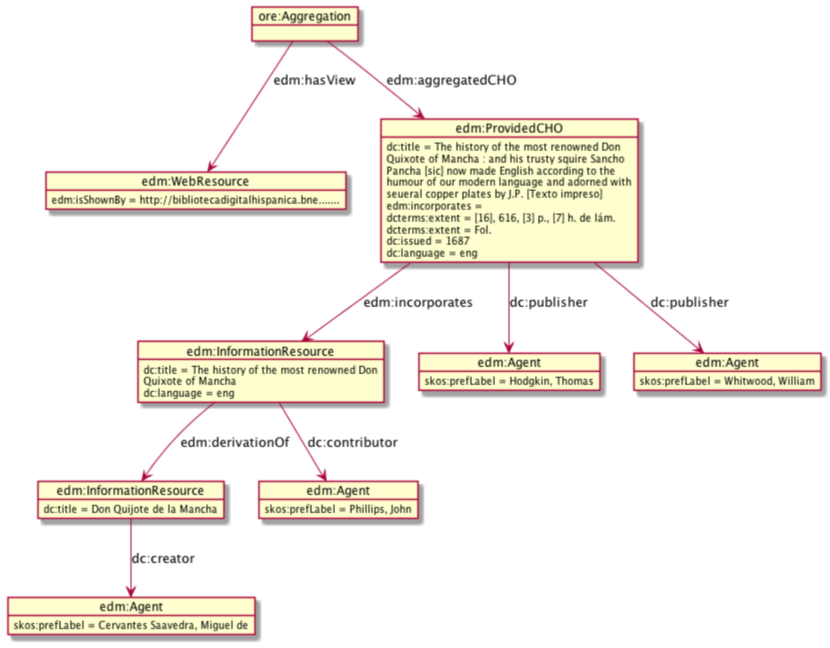
EDM examples

The following figures show the resulting edm records.
The example shows that it is possible to create the same edm-models from both the derivation- and realisation-based models (with the exception of the use of dc:creator for the translator in the derivation-based).
The example mappings also includes some ”worst-case” mappings

Derivation-based

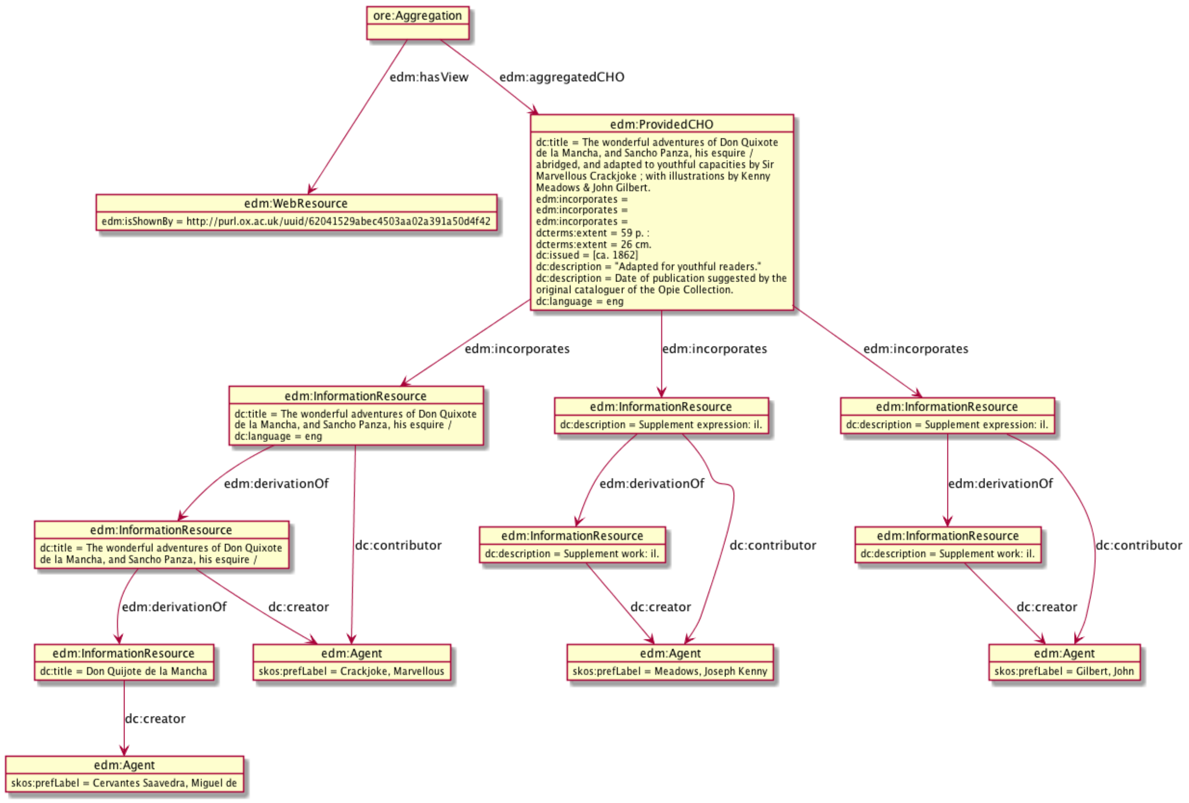

ore:Aggregation
edm:hasView
edm:aggregatedCHO
edm:WebResource
edm:isShownBy = http://bibliotecadigitalhispanica.bne.......
edm:ProvidedCHO
dc:title = The history of the most renowned Don Quixote of Mancha : and his trusty squire Sancho Pancha [sic] now made English according to the humour of our modern language and adorned with seueral copper plates by J.P. [Texto impreso]
dcterms:extent = [16], 616, [3] p., [7] h. de lám.
dcterms:extent = Fol.
dc:issued = 1687
dc:language = eng
edm:incorporates
dc:publisher
dc:publisher
edm:InformationResource
dc:title = The history of the most renowned Don Quixote of Mancha
dc:language = eng
edm:Agent
skos:prefLabel = Hodgkin, Thomas
edm:Agent
skos:prefLabel = Whitwood, William
edm:derivationOf
dc:creator
edm:InformationResource
dc:title = Don Quijote de la Mancha
dc:language = spa
edm:Agent
skos:prefLabel = Phillips, John
dc:creator
edm:Agent
skos:prefLabel = Cervantes Saavedra, Miguel de

Realisation-based


ore:Aggregation
edm:hasView
edm:aggregatedCHO
edm:WebResource
edm:isShownBy = http://bibliotecadigitalhispanica.bne.......
edm:ProvidedCHO
dc:title = The history of the most renowned Don Quixote of Mancha : and his trusty squire Sancho Pancha [sic] now made English according to the humour of our modern language and adorned with seueral copper plates by J.P. [Texto impreso]
edm:incorporates =
dcterms:extent = [16], 616, [3] p., [7] h. de lám.
dcterms:extent = Fol.
dc:issued = 1687
dc:language = eng
edm:incorporates
dc:publisher
dc:publisher
edm:InformationResource
dc:title = The history of the most renowned Don Quixote of Mancha
dc:language = eng
edm:Agent
skos:prefLabel = Hodgkin, Thomas
edm:Agent
skos:prefLabel = Whitwood, William
edm:derivationOf
dc:contributor
edm:InformationResource
dc:title = Don Quijote de la Mancha
edm:Agent
skos:prefLabel = Phillips, John
dc:creator
edm:Agent
skos:prefLabel = Cervantes Saavedra, Miguel de

Example of reduntant objects

The following example illustrates the reduntant InformationResource problem when mapping realisation-based FRBRoo.
PS! This may be solved by merging InformationResource instances where one is the derivation of the other and they have the same contributor/creator…. sounds easy but it is a bit tricky to implement….


ore:Aggregation
edm:hasView
edm:aggregatedCHO
edm:WebResource
edm:isShownBy = http://purl.ox.ac.uk/uuid/62041529abec4503aa02a391a50d4f42
edm:ProvidedCHO
dc:title = The wonderful adventures of Don Quixote de la Mancha, and Sancho Panza, his esquire / abridged, and adapted to youthful capacities by Sir Marvellous Crackjoke ; with illustrations by Kenny Meadows & John Gilbert.
edm:incorporates =
edm:incorporates =
edm:incorporates =
dcterms:extent = 59 p. :
dcterms:extent = 26 cm.
dc:issued = [ca. 1862]
dc:description = "Adapted for youthful readers."
dc:description = Date of publication suggested by the original cataloguer of the Opie Collection.
dc:language = eng
edm:incorporates
edm:incorporates
edm:incorporates
edm:InformationResource
dc:title = The wonderful adventures of Don Quixote de la Mancha, and Sancho Panza, his esquire /
dc:language = eng
edm:InformationResource
dc:description = Supplement expression: il.
edm:InformationResource
dc:description = Supplement expression: il.
edm:derivationOf
dc:contributor
edm:derivationOf
dc:contributor
edm:derivationOf
dc:contributor
edm:InformationResource
dc:title = The wonderful adventures of Don Quixote de la Mancha, and Sancho Panza, his esquire /
edm:InformationResource
dc:description = Supplement work: il.
edm:InformationResource
dc:description = Supplement work: il.
edm:derivationOf
dc:creator
dc:creator
dc:creator
edm:InformationResource
dc:title = Don Quijote de la Mancha
edm:Agent
skos:prefLabel = Crackjoke, Marvellous
edm:Agent
skos:prefLabel = Meadows, Joseph Kenny
edm:Agent
skos:prefLabel = Gilbert, John
dc:creator
edm:Agent
skos:prefLabel = Cervantes Saavedra, Miguel de