Unit 6 Exercise

Learning Objectives:

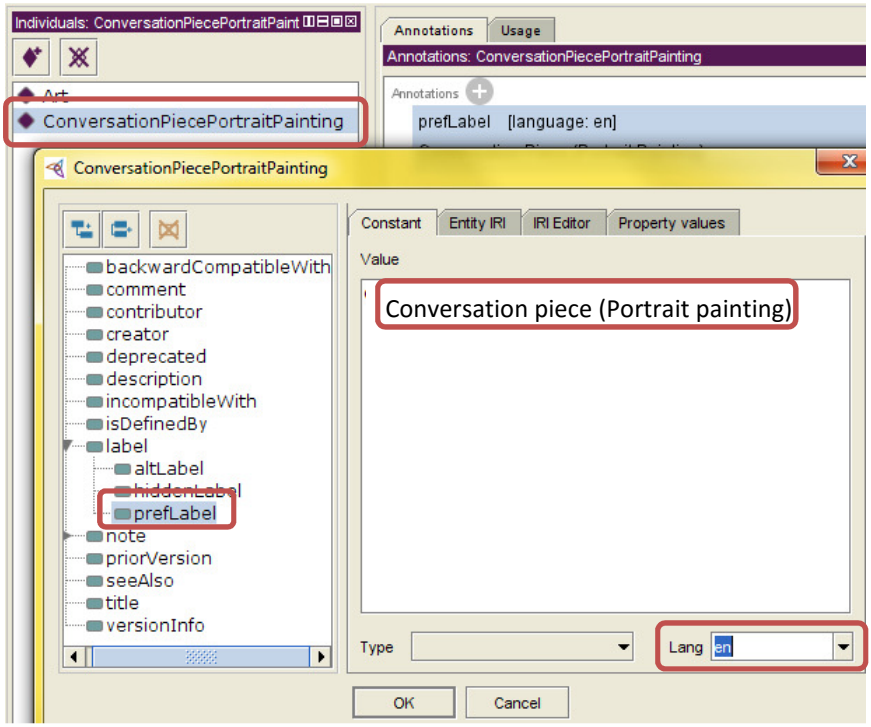
- Get some introductory first-hand experience expressing traditional controlled vocabulary subject terms and semantic relationships in the SKOS ontology framework.
- Understand the uses of the classes skos:Concept and skos:ConceptScheme.
- Understand the use of the annotation properties skos:prefLabel, skos:altLabel, and skos:scopeNote.
- Understand the use of the object properties skos:broader, skos:narrower, and skos:related, as well as skos:inScheme.
- Understand the meaning of owl inverse, symmetric, and transitive properties and their use in SKOS.

Instructions:

1. Watch the Unit 6 Exercise Tutorial Video
2. Download the skos.rdf file posted on the course site.
3. Open Protégé to create a new, blank ontology file. In the "Active Ontology" tab, overwrite the default ontology IRI at the top with this made-up IRI: **http://www.xyz.org/artthesuarus**
4. At the bottom of the screen, under "Imported ontologies," click on the plus sign next to "Direct imports," be sure that "Import ontology contained in a specific file" is selected, click on "Continue," browse to locate the skos.rdf file you downloaded in step 1 above, leave the files of Type OWL File selected, click Open, click Continue, then click Finish.
5. From the File menu at the top left of the Protégé window, select "Save," then "Turtle" from the dropdown menu in the "Select an ontology format" box, OK, then give the file the name **artworksThesuarus**, leave the file type OWL file, and click the Save button.
6. Explore the SKOS classes and all of the object, data, and annotation properties by clicking to open all the levels in their respective tabs. Look especially for **inverse, symmetric, and transitive object properties**.
7. Add the following terms as individuals. Remember that these are not the lexical labels for the controlled terms themselves, but rather the identifier portion of the QName URI, and so they are run together in camelCase. (Note: these terms have been taken from Library of Congress Subject Headings and slightly reworked for use in the invented "Artworks Thesaurus" used in this course exercise.)

   Art
   ArtworksThesuarus
   CompositionArt
   Contrapposto
   ConversationPiecePortraitPainting
   FigurativeArt
   FigureDrawing
   FigurePainting
   FigureSculpture
   GenrePainting
   HumanFigureInArt
   Painting
   PortraitPainting

8. Classify each individual by adding a Type. All of the terms above belong to the class *skos:Concept*, except for :ArtworksThesuarus, which belongs to *skos:ConceptScheme*.
9. Now start working with the traditional type of thesaurus display given below the exercise instructions in this document, to enter labels, a scope note, scheme membership, and semantic relationships.
   Begin by adding the lexical labels in English for each individual, using the *skos:prefLabel* annotation property, and selecting "en" (for English) in the "Lang" (Language) dropdown, as illustrated below, then click OK.



10. Two of the terms have variant forms (UF / USE FOR). These are entered using the *skos:altLabel* annotation property.
11. One term has a Spanish language equivalent, in addition to the English *prefLabel*, add a *prefLabel* with the Spanish term, and select "es" (Español) in the Lang dropdown.
12. One term has a scope note. You can copy and paste it into Protégé, using the skos:scopeNote annotation property.
13. Add scheme membership for every individual term using the *skos:inScheme* object property, with :ArtworksThesuarus as the value.
14. Add broader and narrower term relationships for all terms to which they apply using the *skos:broader* and *skos:narrower* object properties. Do **not** use *skos:broaderTransitive* or *skos:narrowerTransitive*.
15. Finally, add all related term relationships using the *skos:related* object property.
16. Save the file and view the Turtle code in a text editor. Notice that the identifier portion of our thesaurus term URIs have the colon indicating that they are part of the artworks thesaurus UTI, while the SKOS properties and classes have the SKOS URIs.
17. Submit the OWL file to the Unit 6 Exercise dropbox folder.

Optional: Create a graph diagram of one or both sets of terms.

Artworks Thesaurus terms and semantic relationships to use in this exercise:

Portrait painting

Scheme Membership
Artworks Thesaurus
Variants (UF)
Portraiture
Broader Terms (BT)
Painting
Narrower Terms (NT)
Conversation piece (Portrait painting)
Related Terms (RT)
Figure painting

Figure painting

Scheme Membership
Artworks Thesaurus
Broader Terms (BT)
Painting
Narrower Terms (NT)
Genre painting
Related Terms (RT)
Human figure in art
Portrait painting
Spanish: *Figura pintura*

Human figure in art

Scheme Membership
Artworks Thesaurus
Scope Note (SN)
Here are entered works on the techniques of depicting the human body in art. Works on the representation of human beings in art are entered under [Human beings in art.]
Variants (UF)
Human body in art
Broader Terms
Art
Composition (Art)
Figurative art
Narrower Terms (NT)
Contrapposto
Figure sculpture
Related Terms (RT)
Figure drawing
Figure painting