SPARQL Queries for Interface

Search Objective	Pseudo SPARQL Query	SPARQL Query Example

To find the broader term	SELECT variables *a* and *aLabel* and *b* and *bLabel*
	WHERE
	BIND ([category] to variable *a*)
	a hasLabel *aLabel*
	a isSubClassOf *b*
	b hasLabel *bLabel*
		SELECT ?a ?aLabel ?b ?bLabel
		
		WHERE
		{
		BIND (wd:Q20983127 as ?a)
		?a rdfs:label ?aLabel.
		?a wdt:P279 ?b.
		?b rdfs:label ?bLabel.
		
		}

To find the narrower term	SELECT variable *a* and *aLabel* and *n* and *nLabel*
	WHERE
	BIND ([category] to variable *a*)
	a hasLabel *aLabel*
	a inverse of isSubClassOf *n*
	n hasLabel *nLabel*
		SELECT ?a ?aLabel ?n ?nLabel
		
		WHERE
		{
		BIND (wd:Q2453629 as ?a)
		?a rdfs:label ?aLabel.
		?a ^wdt:P279 ?n.
		?n rdfs:label ?nLabel.
		
		}

To find the related Nomen term	SELECT variable *a* and *category* and *match*
	WHERE
	BIND ([category] to variable *a*)
	a isInstanceOf *category*
	category hasExactMatch to *match*
	
	or
	
	category hasbroadMatch to *match*
	
	or
	
	category hascloseMatch to *match*
		SELECT ?a ?category ?match
		
		WHERE
		{
		BIND (wd:Q102971296 as ?a)
		
		{?a wdt:P31 ?category .
		?category skos:exactMatch ?match . }
		UNION
		{?a wdt:P31 ?category .
		?category skos:broadMatch ?match . }
		UNION
		{?a wdt:P31 ?category .
		?category skos:closeMatch ?match .}
		
		FILTER regex(str(?match), "nomen", "i")
		}

Search Objective	Pseudo SPARQL Query	SPARQL Query Example
	FILTER the values of *match* for the string “nomen”	

To find the related Getty term	SELECT variable *a* and *category* and *match*
	WHERE
	BIND ([category] to variable *a*)
	a isInstanceOf *category*
	category hasExactMatch to *match*
	
	or
	
	category hasbroadMatch to *match*
	
	or
	
	category hascloseMatch to *match*
	
	FILTER the values of *match* for the string “getty”
		SELECT ?a ?category ?match
		
		WHERE
		{
		BIND (wd:Q102971296 as ?a)
		
		{?a wdt:P31 ?category .
		?category skos:exactMatch ?match . }
		UNION
		{?a wdt:P31 ?category .
		?category skos:broadMatch ?match . }
		UNION
		{?a wdt:P31 ?category .
		?category skos:closeMatch ?match .}
		
		FILTER regex(str(?match), "getty", "i")
		}

To see all art objects in a certain category	SELECT variable *a* and *aLabel*
	WHERE
	a isInstanceOf [category iri]
	a hasLabel *aLabel*
		SELECT ?a ?aLabel
		
		WHERE
		{
		?a wdt:P31 wd:Q12826066 ;
		rdfs:label ?aLabel .
		}

To see all art objects categorized in a subclass of a higher level.	SELECT variables *a* and *aLabel* and *c* and *cLabel* and *n* and *nLabel*
	WHERE
	BIND ([category iri] to variable *c)*
	c isInverse of isSubClassOf *n*
	c hasLabel *cLabel*
	a isInstanceOf *n*
	a hasLabel *aLabel*
	n hasLabel *nLabel*
		SELECT ?a ?aLabel ?c ?cLabel ?n ?nLabel
		WHERE
		{
		BIND (wd:Q2453629 as ?c)
		?c ^wdt:P279* ?n.
		?c rdfs:label ?cLabel.
		?a wdt:P31 ?n.
		?a rdfs:label ?aLabel.
		?n rdfs:label ?nLabel.
		}

Search Objective	Pseudo SPARQL Query	SPARQL Query Example

To see an art object's category	SELECT variable *a* and *category* and *categoryLabel*
	WHERE
	BIND ([object iri] to variable *a*)
	a isInstnceOf *category*
	category hasLabel *categoryLabel*
		SELECT ?a ?category ?categoryLabel
		
		WHERE
		{
		BIND (wd:Q103309293 as ?a)
		
		?a wdt:P31 ?category .
		?category rdfs:label ?categoryLabel .
		}

To see an art object's exact match category in other vocabularies	SELECT variable *a* and *category* and *exactMatch*
	WHERE
	BIND ([object iri] to variable *a*)
	a isInstanceOf *category*
	category hasExactMatch *exactMatch*
		SELECT ?a ?category ?exactMatch
		
		WHERE
		{
		BIND (wd:Q103309293 as ?a)
		
		?a wdt:P31 ?category .
		?category skos:exactMatch ?exactMatch .
		
		}

To see an art object's category and various matching relationships to the other vocabularies.	SELECT variable *a* and *category* and *match*
	WHERE
	BIND ([object iri] to variable *a*
	
	a isInstanceOf *category*
	category hasExactMatch to *match*
	
	or
	
	category hasbroadMatch to *match*
	
	or
	
	category hascloseMatch to *match*
		SELECT ?a ?category ?match
		
		WHERE
		{
		BIND (wd:Q102971296 as ?a)
		
		{?a wdt:P31 ?category .
		?category skos:exactMatch ?match . }
		UNION
		{?a wdt:P31 ?category .
		?category skos:broadMatch ?match . }
		UNION
		{?a wdt:P31 ?category .
		?category skos:closeMatch ?match .}
		}

To find art objects with string value in Label	SELECT variables *a* and *aLabel* and *c*
	FROM work-class-link graph
		SELECT ?a ?aLabel ?c
		
		FROM <http://work-class-links>

Search Objective	Pseudo SPARQL Query	SPARQL Query Example

	WHERE
	a hasLabel *aLabel*
	a isInstanceOf *c*
	
	FILTER *aLabel* values for [insert search value]
		WHERE
		{
		?a rdfs:label ?aLabel .
		?a wdt:P31 ?c .
		
		FILTER regex(str(?aLabel)," cup ","i")
		}
		LIMIT 100

To see a category, its broader term, and its narrower term(s) in Getty	SELECT variables *term* and *termLabel* and *parentLabel* and *childLabel* WHERE BIND ([aat term] as *term*) *term* hasbroaderPreferred *parent* *term* hasInversebroaderPreferred *child* *term* haspreferredLabel *t* *t* hasliteralvalue *termLabel* *parent* haspreferredLabel *l* *l* hasliteralValue *parentLabel* *child* haspreferredLabel *c* *c* hasliteralValue *childLabel*	SELECT ?term ?termLabel ?parentLabel ?childLabel WHERE { bind (aat:300435539 as ?term) ?term gvp:broaderPreferred ?parent ; ^gvp:broaderPreferred ?child. ?term gvp:prefLabelGVP ?t. ?t skosxl:literalForm ?termLabel. ?parent gvp:prefLabelGVP ?l. ?l skosxl:literalForm ?parentLabel. ?child gvp:prefLabelGVP ?c. ?c skosxl:literalForm ?childLabel. }
To see a category, its broader term, and its narrower term(s) in Nomenclature	SELECT variables *term* and *termLabel* and *parentLabel* and *childLabel* WHERE BIND ([nom term] as *term*) *term* hasbroader *parent* *term* hasnarrower *child* *term* haspreferredLabel *termLabel* *parent* haspreferredLabel *parentLabel* *child* haspreferredLabel *childLabel*	PREFIX nom: <https://nomenclature.info/nom/> SELECT ?term ?termLabel ?parentLabel ?childLabel WHERE { bind (nom:11153 as ?term) ?term skos:broader ?parent ; skos:narrower ?child. ?term skos:prefLabel ?termLabel. ?parent skos:prefLabel ?parentLabel. ?child skos:prefLabel ?childLabel. filter(lang(?termLabel)="en")

Search Objective	Pseudo SPARQL Query	SPARQL Query Example

		`filter(lang(?parentLabel)="en")`
		`filter(lang(?childLabel)="en")`
		`}`

To see a category's hierarchy placement (**NOTE**: I have an idea on doing this for the AAT using the parent string. Not sure how best to do this with the other vocabs).		`SELECT  ?hierarchy`
		`WHERE`
		`{`
		`BIND (wd:Q2453629 as ?term)`
		`{?term wdt:P279 ?parent.} UNION`
		`{?term ^wdt:P279 ?child.}`
		`?parent rdfs:label ?parentLabel.`
		`?child rdfs:label ?childLabel.`
		`?term rdfs:label ?termLabel.`
		`BIND (str(concat("parent: ", ?parentLabel, "; ","term: ", ?termLabel,"; ", "child: ",?childLabel, ".")) as ?hierarchy)`
		`} LIMIT 100`

Other thoughts and musings:

Is there a way to create a query that results in suggested terms? Maybe there is a way to create a synonym ring or associative terms that could be used. I don't know how the search interface can accommodate that though.

For example, maybe we could use the dataset from WordNet https://wordnet.princeton.edu/download to match words a user enters that are semantically similar to the vocabulary terms.

Collection of SPARQL Queries (Not already captured)

Description	Query

Sculptures with images in Vanderbilt Wikidata Collection
[Wikidata Endpoint]
	#defaultView:ImageGrid
	select ?art ?artLabel ?pic
	
	where {
	 ?art wdt:P195 wd:Q18563658 .
	  ?art wdt:P31 wd:Q860861 .
	  ?art wdt:P18 ?pic .
	  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en".}
	
	}

Sculptures with and without images in Vanderbilt Wikidata Collection
[Wikidata Endpoint]
	#defaultView:ImageGrid
	select ?art ?artLabel ?pic
	
	where {
	 ?art wdt:P195 wd:Q18563658 .
	  ?art wdt:P31 wd:Q860861 .
	  optional {?art wdt:P18 ?pic .}
	  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en".}
	
	}

Artists with/without pictures in the Vanderbilt Wikidata Collection
[Wikidata Endpoint]
	#defaultView:ImageGrid
	select ?artist ?artistLabel ?pic
	
	where {
	 ?artist wdt:P6379 wd:Q18563658
	  optional {?artist wdt:P18 ?pic .}
	  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en".}
	
	}

Artists in Vanderbilt Wikidata collection with map location of birthplace [Wikidata Endpoint]	#defaultView:Map select ?artist ?artistLabel ?placeLabel ?geo

Description	Query

	where {
	?artist wdt:P6379 wd:Q18563658.
	?artist wdt:P19 ?place.
	?place wdt:P625 ?geo
	
	SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en".}
	
	}

Artwork URI, Label, Class URI, and Class Label
[Vanderbilt Endpoint]
	SELECT DISTINCT ?work ?workLabel ?class ?classLabel
	WHERE {
	?work wdt:P31 ?class.
	?work rdfs:label ?workLabel.
	?class rdfs:label ?classLabel.
	}
	limit 10

Construction query to build triple statements for wikidata classes to their parent class
[Vanderbilt Endpoint]
	construct {
	?class wdt:P279 ?superclass.
	?base_class rdfs:label ?base_label.
	?superclass rdfs:label ?super_label.
	}
	where {
	# Q102971873 is "Soba-choko (noodle sauce cup) with a design in blue underglaze of a stylized rock and grasses"
	bind (wd:Q102971873 as ?artwork) # Comment out this line to do all artworks
	?artwork wdt:P195 wd:Q18563658. # must be in the Vanderbilt Art Gallery
	?artwork wdt:P31 ?base_class. # artwork is an instance of the base class
	?base_class wdt:P279* ?class. # the subject class is 0 to many subclass_of links from the base class
	?class wdt:P279 ?superclass. # the class must have a superclass
	
	?base_class rdfs:label ?base_label.
	filter(lang(?base_label)="en")
	?superclass rdfs:label ?super_label.
	filter(lang(?super_label)="en")
	}

List of named graphs	PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

Description	Query

[Vanderbilt Endpoint}	PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
	PREFIX skosxl: <http://www.w3.org/2008/05/skos-xl#>
	PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
	PREFIX dc: <http://purl.org/dc/elements/1.1/>
	PREFIX dcterms: <http://purl.org/dc/terms/>
	PREFIX dcat: <http://www.w3.org/ns/dcat#>
	PREFIX wd: <http://www.wikidata.org/entity/>
	PREFIX wdt: <http://www.wikidata.org/prop/direct/>
	PREFIX aat: <http://vocab.getty.edu/aat/>
	PREFIX gvp: <http://vocab.getty.edu/ontology#>
	PREFIX sd: <http://www.w3.org/ns/sparql-service-description#>
	
	SELECT DISTINCT ?NamedGraph ?modified ?issued ?publisher ?status
	FROM <https://sparql.vanderbilt.edu/graphs>
	WHERE {
	?Service sd:endpoint <https://sparql.vanderbilt.edu/sparql>.
	?Service sd:availableGraphs ?GraphCollection.
	?GraphCollection sd:namedGraph ?NamedGraph.
	?NamedGraph dcterms:modified ?modified.
	optional {?NamedGraph dcterms:issued ?issued.}
	optional {?NamedGraph dc:publisher ?publisher.}
	optional {?NamedGraph
	<http://rs.tdwg.org/dwc/terms/attributes/status> ?status.}
	}
	order by desc(?issued)

Construction query to link Wikidata item to their classes
[Vanderbilt Endpoint]
	construct {
	  ?artwork wdt:P31 ?class.
	  ?artwork rdfs:label ?label.
	  }
	where {
	  ?artwork wdt:P195 wd:Q18563658.
	  ?artwork wdt:P31 ?class.
	  ?artwork rdfs:label ?label.
	  filter(lang(?label)="en")
	  }

Query of AAT to see various broader classes	select distinct ?broader_subject ?subject_label ?broader_object
	?object_label
	from <http://AATOut_2Terms>
	from <http://AATOut_HierarchicalRels>
	where {
	
	# http://vocab.getty.edu/aat/300043022 is the IRI for "teapots"

Description	Query
	bind(<http://vocab.getty.edu/aat/300193015> as ?broader_subject) ?broader_subject gvp:broaderGeneric ?broader_object. #?broader_subject gvp:broaderPreferred ?broader_object. #?broader_subject gvp:broaderNonPreferred ?broader_object. ?broader_subject skosxl:prefLabel ?labelSubject. ?labelSubject skosxl:literalForm ?subject_label. filter(lang(?subject_label)="en") ?broader_object skosxl:prefLabel ?labelObject. ?labelObject skosxl:literalForm ?object_label. filter(lang(?object_label)="en") }

Query to find equivalent concepts to Getty AAT classes	prefix skos: <http://www.w3.org/2004/02/skos/core#>
	prefix skosxl: <http://www.w3.org/2008/05/skos-xl#>
	
	select distinct ?iri ?prefLabel ?otherConcept
	
	where {
	
	# Use bind to avoid having to enter the ID twice
	bind(<http://vocab.getty.edu/aat/300047090> as ?iri)
	
	?iri skosxl:prefLabel ?labelObject.
	?labelObject skosxl:literalForm ?prefLabel.
	filter(lang(?prefLabel)="en")
	
	# Get the equivalent Wikidata concept
	optional {?iri skos:exactMatch ?otherConcept.}
	}

Query to find equivalent concepts to Nomenclature classes	select distinct ?iri ?prefLabel ?otherConcept ?other_label
	
	where {
	
	# Use bind to avoid having to enter the ID twice
	bind(<https://nomenclature.info/nom/13997> as ?iri)
	
	?iri skos:prefLabel ?prefLabel.
	filter(lang(?prefLabel)="en")
	
	# Get the equivalent AAT or Wikidata concept

Description	Query

	optional {?iri skos:exactMatch ?otherConcept.}
	
	# Get the equivalent concept label
	optional {
	 ?otherConcept skosxl:prefLabel ?labelOther.
	 ?labelOther skosxl:literalForm ?other_label.
	filter(lang(?other_label)="en")
	  }
	}

Query to find subject and object IRIs for Getty AAT hierarchy classes	PREFIX gvp: <http://vocab.getty.edu/ontology#>
	PREFIX skosxl: <http://www.w3.org/2008/05/skos-xl#>
	
	select distinct ?broader_subject ?subject_label ?broader_object ?object_label
	from <http://AATOut_2Terms>
	from <http://AATOut_HierarchicalRels>
	where {
	
	# http://vocab.getty.edu/aat/300043022 is the IRI for "teapots"
	
	<http://vocab.getty.edu/aat/300043022> gvp:broaderGeneric* ?broader_subject.
	?broader_subject gvp:broaderGeneric ?broader_object.
	
	 ?broader_subject skosxl:prefLabel ?labelSubject.
	 ?labelSubject skosxl:literalForm ?subject_label.
	filter(lang(?subject_label)="en")
	
	 ?broader_object skosxl:prefLabel ?labelObject.
	 ?labelObject skosxl:literalForm ?object_label.
	filter(lang(?object_label)="en")
	}

Query to find subject and object IRIs for Nomenclature hierarchy classes	PREFIX skos: <http://www.w3.org/2004/02/skos/core#> select distinct ?broader_subject ?subject_label ?broader_object ?object_label from <http://nomenclature_2022-02-02> where { <https://nomenclature.info/nom/12978> skos:broader* ?broader_subject. ?broader_subject skos:broader ?broader_object.

Description	Query

	?broader_subject skos:prefLabel ?subject_label.
	filter(lang(?subject_label)="en")
	
	?broader_object skos:prefLabel ?object_label.
	filter(lang(?object_label)="en")
	  }

Query that selects nomenclature classes and lists exact matches in Wikidata classes and AAT classes	#selects items in nomenclature and provides preferred label and exact match to other vocabularies. select * where { ?item skos:inScheme <https://nomenclature.info/nom/>; skos:prefLabel ?label; skos:exactMatch ?match. {?match rdfs:label ?matchLabel.} UNION {?match gvp:prefLabelGVP/skosxl:literalForm ?matchLabel .} filter langMatches(lang(?label), "en") } LIMIT 100