

Appendix C

OWL model

The following OWL model defines classes, relationships between a class and its instances, relationships between instances of different classes and other characteristics of an ontology of records.

```
<?xml version="1.0"?>
<!DOCTYPE rdf:RDF [<!ENTITY xml "http://www.w3.org/XML/1998/namespace">
<!ENTITY or "http://www.utm.mx/~sigepr/recursos/ontologyofrecords.xhtml">
<!ENTITY xsi "http://www.w3.org/2001/XMLSchema-instance">
<!ENTITY xsd "http://www.w3.org/2001/XMLSchema">]>

<rdf:RDF xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:xml="http://www.w3.org/XML/1998/namespace"
xmlns:or="http://www.utm.mx/~sigepr/recursos/ontologyofrecords.xhtml"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns="http://localhost/sistor/modelo.owl#">
```

```
xml:base="http://localhost/sistor/modelo.owl#">

<owl:Ontology xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://localhost/sistor/modelo.owl">
  <rdfs:comment xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    OWL model for an ontology of records, Version 2.1</rdfs:comment>
</owl:Ontology>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#algorithm"/>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#cluster"/>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#label">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.utm.mx/~sigepr/recursos/
```

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    ontologyofrecords.xhtml#cluster"/>
</owl:DatatypeProperty>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  rdf:about="http://www.utm.mx/~sigepr/recursos/
  ontologyofrecords.xhtml#cluster">
  <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Restriction>
      <owl:onProperty
        rdf:resource="http://www.utm.mx/~sigepr/recursos/
        ontologyofrecords.xhtml#label"/>
      <owl:minCardinality
        rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
        1</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  rdf:about="http://www.utm.mx/~sigepr/recursos/ontologyofrecords.xhtml#level">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  rdf:resource="http://www.utm.mx/~sigepr/recursos/
  ontologyofrecords.xhtml#cluster"/>

```

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</owl:DatatypeProperty>
```

```
<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#cluster">
  <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Restriction>
      <owl:onProperty
rdf:resource="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#level"/>
      <owl:minCardinality rdf:datatype=
"http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
        1</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>
```

```
<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#record"/>
```

```
<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/ontologyofrecords.xhtml#title">
```

```

<rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
<rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#record"/>
</owl:DatatypeProperty>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#record">
  <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Restriction>
      <owl:onProperty
rdf:resource="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#title"/>
      <owl:minCardinality
rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
        0</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/ontologyofrecords.xhtml#subject">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"

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    rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
    <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
      rdf:resource="http://www.utm.mx/~sigepr/recursos/
      ontologyofrecords.xhtml#record"/>
  </owl:DatatypeProperty>

  <owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
    xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
    rdf:about="http://www.utm.mx/~sigepr/recursos/
    ontologyofrecords.xhtml#record">
    <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
      <owl:Restriction>
        <owl:onProperty
          rdf:resource="http://www.utm.mx/~sigepr/recursos/
          ontologyofrecords.xhtml#subject"/>
        <owl:minCardinality
          rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
          0</owl:minCardinality>
        </owl:Restriction>
      </rdfs:subClassOf>
    </owl:Class>

  <owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
    xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
    rdf:about="http://www.utm.mx/~sigepr/recursos/
    ontologyofrecords.xhtml#description">
    <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"

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    rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
<rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.utm.mx/~sigep/records/
ontologyofrecords.xhtml#record"/>
</owl:DatatypeProperty>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigep/records/ontologyofrecords.xhtml#record">
  <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Restriction>
      <owl:onProperty
rdf:resource="http://www.utm.mx/~sigep/records/
ontologyofrecords.xhtml#description"/>
      <owl:minCardinality
rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
        0</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigep/records/
ontologyofrecords.xhtml#identifier">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>

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<rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#record"/>
</owl:DatatypeProperty>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#record">
<rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
  <owl:Restriction>
    <owl:onProperty
rdf:resource="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#identifier"/>
    <owl:minCardinality rdf:datatype="http://www.w3.org/2001/
XMLSchema#nonNegativeInteger">
      0</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>

<owl:ObjectProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="hasontologyofrecords.xhtmlalgorithm">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource=
"http://www.utm.mx/~sigepr/recursos/ontologyofrecords.xhtml#algorithm"/>

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<rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource=
"http://www.utm.mx/~sigep/recursos/
ontologyofrecords.xhtml#ontologyofrecords"/>
</owl:ObjectProperty>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" rdf:about=
"http://www.utm.mx/~sigep/recursos/ontologyofrecords.xhtml
#ontologyofrecords">
  <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Restriction>
      <owl:onProperty rdf:resource="#hasontologyofrecords.xhtmlalgorithm"/>
      <owl:minCardinality
rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
        0</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>

<owl:ObjectProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="hasontologyofrecords.xhtmllcluster">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource=
"http://www.utm.mx/~sigep/recursos/ontologyofrecords.xhtml#cluster"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"

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    rdf:resource=
      "http://www.utm.mx/~sigepr/recursos/
      ontologyofrecords.xhtml#ontologyofrecords"/>
  </owl:ObjectProperty>

  <owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
    xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" rdf:about=
      "http://www.utm.mx/~sigepr/recursos/
      ontologyofrecords.xhtml#ontologyofrecords">
    <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
      <owl:Restriction>
        <owl:onProperty rdf:resource="#hasontologyofrecords.xhtmlcluster"/>
        <owl:minCardinality
          rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
          0</owl:minCardinality>
        </owl:Restriction>
      </rdfs:subClassOf>
    </owl:Class>

  <owl:ObjectProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
    xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
    rdf:ID="hasontologyofrecords.xhtmlrecord">
    <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
      rdf:resource="http://www.utm.mx/~sigepr/recursos/
      ontologyofrecords.xhtml#record"/>
    <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
      rdf:resource="http://www.utm.mx/~sigepr/recursos/

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    ontologyofrecords.xhtml#cluster"/>
</owl:ObjectProperty>

<owl:Class xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:about="http://www.utm.mx/~sigepr/recursos/
ontologyofrecords.xhtml#cluster">
  <rdfs:subClassOf xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Restriction>
      <owl:onProperty rdf:resource="#hasontologyofrecords.xhtmlrecord"/>
      <owl:minCardinality
rdf:datatype="http://www.w3.org/2001/XMLSchema#nonNegativeInteger">
        0</owl:minCardinality>
    </owl:Restriction>
  </rdfs:subClassOf>
</owl:Class>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="dataPropertydate">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource=
  "http://www.utm.mx/~sigepr/recursos/
  ontologyofrecords.xhtml#ontologyofrecords"/>
</owl:DatatypeProperty>

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```
<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="dataPropertyclustersupport">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource=
  "http://www.utm.mx/~sigep/ recursos/ontologyofrecords.xhtml#algorithm"/>
</owl:DatatypeProperty>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="dataPropertyglobalsupport">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource=
  "http://www.utm.mx/~sigep/ recursos/ontologyofrecords.xhtml#algorithm"/>
</owl:DatatypeProperty>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="dataPropertyname">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
```

```
    rdf:resource="http://www.utm.mx/~sigepr/recursos/
    ontologyofrecords.xhtml#algorithm"/>
</owl:DatatypeProperty>

<owl:DatatypeProperty xmlns:owl="http://www.w3.org/2002/07/owl#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
rdf:ID="dataPropertyContent">
  <rdfs:range xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
    <owl:Class>
      <owl:unionOf rdf:parseType="Collection">
        <owl:Class
          rdf:about=
            "#http://www.utm.mx/~sigepr/recursos/
            ontologyofrecords.xhtml#algorithm"/>
        </owl:unionOf>
      </owl:Class>
    </rdfs:domain>
  </owl:DatatypeProperty>

</rdf:RDF>
```