

Evaluation results

There are three levels of importance in pitfalls according to their impact on the ontology:

- **Critical** It is crucial to correct the pitfall. Otherwise, it could affect the ontology consistency, reasoning, applicability, etc.
- **Important** Though not critical for ontology function, it is important to correct this type of pitfall.
- **Minor** It is not really a problem, but by correcting it we will make the ontology nicer.

Pitfalls detected:

Results for P04: Creating unconnected ontology elements.

6 cases

Minor

Ontology elements (classes, object properties and datatype properties) are created isolated, with no relation to the rest of the ontology.

- This pitfall appears in the following elements:
 - > http://www.example.org/test#Cl_Education
 - > http://www.example.org/test#Cl_UnionRepresentative
 - > http://www.example.org/test#Cl_EvaluationStatement
 - > http://www.example.org/test#Cl_MedicalFacility
 - > http://www.example.org/test#Cl_Event
 - > http://www.example.org/test#Cl_Relationship

Results for P05: Defining wrong inverse relationships.

1 case

Critical

Two relationships are defined as inverse relations when they are not necessarily inverse.

- This pitfall appears in the following elements:
 - > <http://www.example.org/test#partOf> may not be inverse of <http://www.example.org/test#contains>

Results for P06: Including cycles in a class hierarchy.

1 case

Critical

A cycle between two classes in a hierarchy is included in the ontology. A cycle appears when some class A has a subclass (directly or indirectly) B, and at the same time B is a superclass (directly or indirectly) of A. This pitfall was first identified in [3].

Guidelines presented in [2] also provide recommendations to avoid this pitfall.

- The following classes are involved in a cycle:

> , http://www.example.org/test#CI_Publication, http://www.example.org/test#CI_ArticleCollection,
http://www.example.org/test#CI_Book

Results for P08: Missing annotations.

102 cases

Minor

This pitfall consists in creating an ontology element and failing to provide human readable annotations attached to it. Consequently, ontology elements lack annotation properties that label them (e.g. rdfs:label, lemon:LexicalEntry, skos:prefLabel or skos:altLabel) or that define them (e.g. rdfs:comment or dc:description). This pitfall is related to the guidelines provided in [5].

- The following elements have neither rdfs:label or rdfs:comment (nor skos:definition) defined:

> http://www.example.org/test#CI_Event_Location
> http://www.example.org/test#CI_PersonMedicalDegree
> http://www.example.org/test#CI_Member
> http://www.example.org/test#CI_NursingAssistant
> http://www.example.org/test#CI_Event
> http://www.example.org/test#CI_Employment
> http://www.example.org/test#CI_Employment
> http://www.example.org/test#CI_Membership
> http://www.example.org/test#CI_City
> http://www.example.org/test#CI_Library
> http://www.example.org/test#CI_Hospital
> http://www.example.org/test#CI_ArticleCollection
> http://www.example.org/test#CI_Country
> http://www.example.org/test#CI_Presentation
> http://www.example.org/test#CI_Degree
> http://www.example.org/test#CI_Nurse
> http://www.example.org/test#CI_UnionMembership
> http://www.example.org/test#CI_Article
> http://www.example.org/test#CI_TimePeriod
> http://www.example.org/test#CI_Education
> http://www.example.org/test#CI_UnionRepresentative
> http://www.example.org/test#CI_UnionGroup
> http://www.example.org/test#CI_Seminar
> http://www.example.org/test#CI_BookArticle
> http://www.example.org/test#CI_SeminarEvent
> http://www.example.org/test#CI_Date
> http://www.example.org/test#CI_ArticlePresentation
> http://www.example.org/test#CI_Relationship
> http://www.example.org/test#CI_Person
> http://www.example.org/test#CI_CityLocation
> http://www.example.org/test#CI_Location
> http://www.example.org/test#CI_UnionRole
> http://www.example.org/test#CI_HospitalLocation
> http://www.example.org/test#CI_StudyingForDegree
> http://www.example.org/test#CI_MedicalFacility
> http://www.example.org/test#CI_CertifiedNurse
> http://www.example.org/test#CI_MedicalDegree
> http://www.example.org/test#CI_Seminar_Location

> http://www.example.org/test#CI_Union
> <http://www.example.org/test#countryLocation>
> <http://www.example.org/test#hasCity>
> <http://www.example.org/test#employedAt>
> <http://www.example.org/test#hasPublication>
> <http://www.example.org/test#presentationOf>
> <http://www.example.org/test#hasDate>
> <nup://www.example.org/test#hasDate>
> <http://www.example.org/test#studiedFor>
> <http://www.example.org/test#unionMembershipDuring>
> <http://www.example.org/test#evaluationStatementFor>
> <http://www.example.org/test#partOfUnionGroup>
> <http://www.example.org/test#hasEmployee>
> <http://www.example.org/test#locationCity>
> <http://www.example.org/test#hasMedicalDegree>
> <http://www.example.org/test#contains>
> <http://www.example.org/test#hasHospital>
> <http://www.example.org/test#locationCountry>
> <http://www.example.org/test#startedStudying>
> <http://www.example.org/test#hasSeminar>
> <http://www.example.org/test#memberDuring>
> <http://www.example.org/test#hasMember>
> <http://www.example.org/test#locatedIn>
> <http://www.example.org/test#memberOf>
> <http://www.example.org/test#cityLocation>
> <http://www.example.org/test#hasArticleCollection>
> <http://www.example.org/test#hasDegree>
> <http://www.example.org/test#hasPerson>
> <http://www.example.org/test#hasUnionMembership>
> <http://www.example.org/test#hasArticle>
> <http://www.example.org/test#hasUnionRole>
> <http://www.example.org/test#evaluates>
> <http://www.example.org/test#partOf>
> <http://www.example.org/test#evaluatedBy>
> <http://www.example.org/test#hasLocation>
> <http://www.example.org/test#hasEmployment>
> <http://www.example.org/test#unionMemberDuring>
> <http://www.example.org/test#endedStudying>
> <http://www.example.org/test#publicationDate>
> <http://www.example.org/test#hasPublicationDate>
> <http://www.example.org/test#date>
> <http://www.example.org/test#degreeName>
> <http://www.example.org/test#endTime>
> <http://www.example.org/test#cityName>
> <http://www.example.org/test#hasTitle>
> <http://www.example.org/test#roleName>
> <http://www.example.org/test#title>
> <http://www.example.org/test#hasPageCount>
> <http://www.example.org/test#startTime>
> <http://www.example.org/test#publicationTitle>
> <http://www.example.org/test#evaluationStatement>
> <http://www.example.org/test#hasPresentationDate>
> <http://www.example.org/test#hasPages>
> <http://www.example.org/test#employmentDate>
> <http://www.example.org/test#startDate>
> <http://www.example.org/test#deqreeDate>

- > <http://www.example.org/test#pages>
- > <http://www.example.org/test#countryName>

- The following elements have neither rdfs:comment or skos:definition defined:

- > http://www.example.org/test#CI_Publication
- > http://www.example.org/test#CI_Doctor
- > http://www.example.org/test#CI_Employee
- > http://www.example.org/test#CI_EvaluationStatement
- > http://www.example.org/test#CI_DoctorEmployeeEvaluation
- > http://www.example.org/test#CI_CD
- > http://www.example.org/test#CI_PublicationInstance
- > http://www.example.org/test#CI_Book

Results for P10: Missing disjointness.

Ontology* **Important**

The ontology lacks disjoint axioms between classes or between properties that should be defined as disjoint. This pitfall is related with the guidelines provided in [6], [2] and [7].

*This pitfall applies to the ontology in general instead of specific elements.

Results for P13: Inverse relationships not explicitly declared.

30 cases

Minor

This pitfall appears when any relationship (except for those that are defined as symmetric properties using owl:SymmetricProperty) does not have an inverse relationship (owl:inverseOf) defined within the ontology. owl:SymmetricProperty does not have an inverse relationship (owl:inverseOf) defined within the ontology.

- OOPS! has the following suggestions for the relationships without inverse:

- > <http://www.example.org/test#countryLocation> could be inverse of <http://www.example.org/test#locationCountry>
- > <http://www.example.org/test#employedAt> could be inverse of <http://www.example.org/test#hasEmployee>
- > <http://www.example.org/test#locationCity> could be inverse of <http://www.example.org/test#cityLocation>

- Sorry, OOPS! has no suggestions for the following relationships without inverse:

- > <http://www.example.org/test#hasCity>
- > <http://www.example.org/test#hasPublication>
- > <http://www.example.org/test#presentationOf>
- > <http://www.example.org/test#hasDate>
- > <http://www.example.org/test#studiedFor>
- > <http://www.example.org/test#unionMembershipDuring>
- > <http://www.example.org/test#evaluationStatementFor>
- > <http://www.example.org/test#partOfUnionGroup>
- > <http://www.example.org/test#hasMedicalDegree>
- > <http://www.example.org/test#hasHospital>
- > <http://www.example.org/test#startedStudying>
- > <http://www.example.org/test#hasSeminar>
- > <http://www.example.org/test#memberDuring>
- > <http://www.example.org/test#locatedIn>
- > <http://www.example.org/test#hasArticleCollection>
- > <http://www.example.org/test#hasDegree>
- > <http://www.example.org/test#hasPerson>
- > <http://www.example.org/test#hasUnionMembership>

- > <http://www.example.org/test#hasUnionMembership>
- > <http://www.example.org/test#hasArticle>
- > <http://www.example.org/test#hasUnionRole>
- > <http://www.example.org/test#hasLocation>
- > <http://www.example.org/test#hasEmployment>
- > <http://www.example.org/test#unionMemberDuring>
- > <http://www.example.org/test#endedStudying>

Results for P19: Defining multiple domains or ranges in properties.

Critical

13 cases

The domain or range (`rdfs:domain`, `rdfs:range`) of a property can be defined by multiple `rdfs:range` statements. In OWL multiple `rdfs:domain` or `rdfs:range` axioms are allowed, but they are interpreted as conjunction, being, therefore, equivalent to the construct `owl:intersectionOf`. This pitfall is related to the common error that appears when defining domains and ranges described in [7].

- This pitfall appears in the following elements:
- > <http://www.example.org/test#hasEmployment>
- > <http://www.example.org/test#hasLocation>
- > <http://www.example.org/test#hasArticle>
- > <http://www.example.org/test#hasUnionMembership>
- > <http://www.example.org/test#hasDegree>
- > <http://www.example.org/test#hasSeminar>
- > <http://www.example.org/test#hasHospital>
- > <http://www.example.org/test#degreeDate>
- > <http://www.example.org/test#startDate>
- > <http://www.example.org/test#startTime>
- > <http://www.example.org/test#title>
- > <http://www.example.org/test#endTime>
- > <http://www.example.org/test#degreeName>

Results for P22: Using different naming conventions in the ontology.

Minor
Ontology*

The ontology elements are not named following the same convention (for example CamelCase or use of delimiters as "-" or "_"). Some notions about naming conventions are provided in [2].

*This pitfall applies to the ontology in general instead of specific elements.

Results for P36: URI contains file extension.

Ontology* Minor

This pitfall occurs if file extensions such as ".owl", ".rdf", ".ttl", ".n3" and ".rdffoxml" are included in an ontology URI. This pitfall is related with the recommendations provided in [9].

*This pitfall applies to the ontology in general instead of specific elements.

Suggestions or warnings:

According to the highest importance level of pitfall found in your ontology the conformance badge suggested is "Critical pitfalls" (see below). You can use the following HTML code to insert the badge within your ontology documentation:



```
<p>
<a href="http://oops.linkeddata.es">
</a>
</p>
```

References

[1] Aguado-De Cea, G., Montiel-Ponsoda, E., Poveda-Villalón, M., and Giraldo-Pasmin, O.X. (2015).

[2] Noy, N. F., McGuinness, D. L., et al. (2001).

[3] Gómez-Pérez, A. (1999).

[4] Montiel-Ponsoda, E., Vila Suero, D., Villazón-Terrazas, B., Dunsire, G., Escolano Rodríguez, E., Gómez-Pérez, A. (2011).

[5] Vrandecic, D. (2010).

[6] Gómez-Pérez, A. (2004).

[7] Rector, A., Drummond, N., Horridge, M., Rogers, J., Knublauch, H., Stevens, R., Wang, H., and Wroe, C. (2004).

[8] Hogan, A., Harth, A., Passant, A., Decker, S., and Polleres, A. (2010).



[9] Archer, P., Goedertier, S., and Loutas, N. (2012).



[10] Barnes-Lee Tim. (2006).



[11] Heath, T. and Bizer, C. (2011).



[12] Vatant, B. (2012).



Enter your ontology to scan:

Enter a URI:

Example: http://oops.linkeddata.es/example/swc_2009-05-09.rdf

Enter a direct input:

If you include just RDF code, the following Pitfalls will not be checked:

- P36. URI contains file extension
- P37. Ontology not available
- P40. Namespace hijacking

Uncheck this checkbox if you don't want us to keep a copy of your ontology.

Scan

[Advanced evaluation](#)

How to cite OOPS!

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