



OOPS! (Ontology Pitfall Scanner!) helps you to detect some of the most common pitfalls appearing when developing ontologies.

To try it, enter a URI or paste an OWL document into the text field above. A list of pitfalls and the elements of your ontology where they appear will be displayed.

Scanner by URI:

Scanner by URI

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

Scanner by direct input:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE rdf:RDF [
  <!ENTITY dct "http://purl.org/dc/terms/">
  <!ENTITY fibo-be-fct-fct "https://spec.edmcouncil.org/fibo/ontology
/BE/FunctionalEntities/FunctionalEntities/">
  <!ENTITY fibo-be-le-fbo "https://spec.edmcouncil.org/fibo/ontology
/BE/LegalEntities/FormalBusinessOrganizations/">
  <!ENTITY fibo-be-le-lp "https://spec.edmcouncil.org/fibo/ontology
/BE/LegalEntities/LegalPersons/">
  <!ENTITY fibo-be-oac-exec "https://spec.edmcouncil.org/fibo/ontology
```

Scanner by RDF

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

[Go to advanced evaluation](#)

Evaluation results

It is obvious that not all the pitfalls are equally important; their impact in the ontology will depend on multiple factors. For this reason, each pitfall has an importance level attached indicating how important it is. We have identified three levels:

- **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.

[Expand All] | [Collapse All]

Results for P08: Missing annotations.

10 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:
 - > <https://spec.edmcouncil.org/fibo/ontology/BE/OwnershipAndControl/Executives/AuthorizedParty>
 - > <https://spec.edmcouncil.org/fibo/ontology/FND/ProductsAndServices/ProductsAndServices/ServiceProvider>
 - > <https://spec.edmcouncil.org/fibo/ontology/BE/FunctionalEntities/FunctionalEntities/FunctionalBusinessEntity>
 - > <https://spec.edmcouncil.org/fibo/ontology/FND/Parties/Parties/OrganizationMember>
 - > <https://spec.edmcouncil.org/fibo/ontology/FND/Parties/Parties/PartyInRole>
 - > <https://spec.edmcouncil.org/fibo/ontology/BE/OwnershipAndControl/Executives/AuthorizingParty>
 - > <https://spec.edmcouncil.org/fibo/ontology/FND/DatesAndTimes/FinancialDates/Schedule>
 - > <https://spec.edmcouncil.org/fibo/ontology/BE/LegalEntities/FormalBusinessOrganizations/OrganizationalSubUnit>
 - > <https://spec.edmcouncil.org/fibo/ontology/FND/GoalsAndObjectives/Objectives/Strategy>
 - > <https://www.omg.org/spec/LCC/Languages/LanguageRepresentation/CodeElement>

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 P11: Missing domain or range in properties.

10 cases | Important ⚠️

Object and/or datatype properties without domain or range (or none of them) are included in the ontology.

- This pitfall appears in the following elements:
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasCourseCodeRestriction>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasDepartment>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasValidCourseCodeTag>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasValidLevelMax>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasValidDepartmentCodeTag>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasValidSpecialTag>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasName>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasValidLevelMin>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasDescription>
 - > <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasYear>
- **Tip:** Solving this pitfall may lead to new results for other pitfalls and suggestions. We encourage you to solve all cases when needed and see what else you can get from OOPS!

Want to help?

- [Suggest new pitfalls](#)
- [Provide feedback](#)

Documentation:

- [Pitfall catalogue](#)
- [User guide](#)
- [Technical report](#)

Related papers:

- [IJSWIS 2014](#)
- [EKAW 2012](#)
- [ESWC 2012 Demo](#)
- [Ontoqual 2010](#)
- [CAEPIA 2009](#)

Web services:

- [REST Web Service](#)

Developed by:



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Results for P13: Inverse relationships not explicitly declared.**28 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.

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

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRecommendedPrerequisite> could be inverse of <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRequiredPrerequisite>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRestriction> could be inverse of <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/isFulfilledBy>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRequiredPrerequisite> could be inverse of <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasCorequisite>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/isFulfilledBy> could be inverse of <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasSubRequirement>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasInstructor> could be inverse of <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/teaches>

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

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/isSubTopicOf>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasInterest>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRequirement>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasDepartment>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasPlannedCourse>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasScheduledOffering>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/belongsTo>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasSchedule>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasTopic>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasPlannedMajor>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasCompletedCourse>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasCourseCode>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasStudyPlan>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasPlannedDegree>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/isCourseSectionOf>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasDepartmentCode>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasCourseCodeRestriction>

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasOngoingCourse>

Results for P34: Untyped class.**11 cases | Important** 🟠

An ontology element is used as a class without having been explicitly declared as such using the primitives owl:Class or rdfs:Class. This pitfall is related with the common problems listed in [8].

- This pitfall appears in the following elements:

> <https://spec.edmcouncil.org/fibo/ontology/FND/DatesAndTimes/FinancialDates/Schedule>

> <https://spec.edmcouncil.org/fibo/ontology/FND/Parties/Parties/PartyInRole>

> <https://www.omg.org/spec/LCC/Languages/LanguageRepresentation/CodeElement>

> <https://spec.edmcouncil.org/fibo/ontology/FND/ProductsAndServices/ProductsAndServices/ServiceProvider>

> <https://spec.edmcouncil.org/fibo/ontology/BE/OwnershipAndControl/Executives/AuthorizingParty>

> <https://spec.edmcouncil.org/fibo/ontology/BE/FunctionalEntities/FunctionalEntities/FunctionalBusinessEntity>

> <https://spec.edmcouncil.org/fibo/ontology/FND/Parties/Parties/OrganizationMember>

> <https://spec.edmcouncil.org/fibo/ontology/BE/OwnershipAndControl/Executives/AuthorizedParty>

> <https://spec.edmcouncil.org/fibo/ontology/BE/LegalEntities/FormalBusinessOrganizations/OrganizationalSubUnit>

> <https://spec.edmcouncil.org/fibo/ontology/FND/GoalsAndObjectives/Objectives/Strategy>

> <https://spec.edmcouncil.org/fibo/ontology/FND/DatesAndTimes/FinancialDates/CalendarPeriod>

Results for P35: Untyped property.**1 case | Important** 🟠

An ontology element is used as a property without having been explicitly declared as such using the primitives rdf:Property, owl:ObjectProperty or owl:DatatypeProperty. This pitfall is related with the common problems listed in [8].

- This pitfall appears in the following elements:

> <https://www.omg.org/spec/LCC/Languages/LanguageRepresentation/hasDenotation>

Results for P41: No license declared.**ontology* | Important** 🟠

The ontology metadata omits information about the license that applies to the ontology.

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

SUGGESTION: symmetric or transitive object properties.**7 cases**

The domain and range axioms are equal for each of the following object properties. Could they be symmetric or transitive?

> <https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/isSubTopicOf>

<https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRecommendedPrerequisite>
<https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRestriction>
<https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasRequiredPrerequisite>
<https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/isFulfilledBy>
<https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasCorequisite>
<https://tw.rpi.edu/ontology-engineering/oe2020/course-recommender/hasSubRequirement>

According to the highest importance level of pitfall found in your ontology the conformance badge suggested is "Important 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). Lexicalizing Ontologies: The issues behind the labels. In Multimodal communication in the 21st century: Professional and academic challenges. 33rd Conference of the Spanish Association of Applied Linguistics (AESLA), XXXIII AESLA.
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- [3] Gómez-Pérez, A. (1999). Evaluation of Taxonomic Knowledge in Ontologies and Knowledge Bases. Proceedings of the Banff Knowledge Acquisition for Knowledge-Based Systems Workshop. Alberta, Canada.
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- [8] Hogan, A., Harth, A., Passant, A., Decker, S., and Polleres, A. (2010). Weaving the pedantic web. In Proceedings of the WWW2010 Workshop on Linked Data on the Web, LDOW 2010, Raleigh, USA, April 27, 2010.
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BibTex:

```

@article{poveda2014oops,
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  number={2},
  pages={7--34},
  year={2014},
  publisher={IGI Global}
}

```

Please, help us making OOPS! better. **Feedback** is more than welcome!

In addition, you can also **suggest new pitfalls** so that they can be detected in future evaluations.

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