



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://data.semanticweb.org/ns/swc/swc_2009-05-09.rdf

Scanner by direct input:

```
<?xml version="1.0"?>

<!DOCTYPE rdf:RDF [
  <!ENTITY owl "http://www.w3.org/2002/07/owl#" >
  <!ENTITY xsd "http://www.w3.org/2001/XMLSchema#" >
  <!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#" >
  <!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-syntax-ns#" >
]>
```

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 P04: Creating unconnected ontology elements.

3 cases | Minor 🟡

Ontology elements (classes, relationships or attributes) are created with no relation to the rest of the ontology. An example of this type of pitfall is to create the relationship "memberOfTeam" and to miss the class representing teams; thus, the relationship created is isolated in the ontology.

- This pitfall appears in the following elements:
 - > <http://www.pizza.com/ontologies/pizza.owl#Pizza>
 - > <http://www.pizza.com/ontologies/pizza.owl#PizzaTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#PizzaBase>

Results for P07: Merging different concepts in the same class.

1 case | Minor 🟡

A class is created whose identifier is referring to two or more different concepts. An example of this type of pitfall is to create the class "StyleAndPeriod", or "ProductOrService".

- This pitfall appears in the following elements:
 - > <http://www.pizza.com/ontologies/pizza.owl#ThinAndCrispyBase>

Results for P08: Missing annotations.

31 cases | Minor 🟡

Ontology terms lack annotations properties. This kind of properties improves the ontology understanding and usability from a user point of view.

- The following elements have neither rdfs:label or rdfs:comment defined:
 - > <http://www.pizza.com/ontologies/pizza.owl#PizzaTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#MeetTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#ThinAndCrispyBase>
 - > <http://www.pizza.com/ontologies/pizza.owl#CheeseTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#DeepPanBase>
 - > <http://www.pizza.com/ontologies/pizza.owl#TunaTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#SeafoodTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#PizzaBase>
 - > <http://www.pizza.com/ontologies/pizza.owl#MushroomTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#PrawnTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#PepperonniTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#VegetableTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#OnionTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#CaperTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#RedPepperTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#Pizza>
 - > <http://www.pizza.com/ontologies/pizza.owl#OliveTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#HamTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#ParmesanTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#SpicyBeefTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#TomatoTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#JalapenoPepperTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#PepperTopping>
 - > <http://www.pizza.com/ontologies/pizza.owl#AnchovyTopping>

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:

- [RESTful Web Service](#)

Developed by:



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> <http://www.pizza.com/ontologies/pizza.owl#GreenPepperTopping>
 > <http://www.pizza.com/ontologies/pizza.owl#MozaarellaTopping>
 > <http://www.pizza.com/ontologies/pizza.owl#SalamiTopping>
 > <http://www.pizza.com/ontologies/pizza.owl#isIngredientOf>
 > <http://www.pizza.com/ontologies/pizza.owl#hasTopping>
 > <http://www.pizza.com/ontologies/pizza.owl#hasIngredient>
 > <http://www.pizza.com/ontologies/pizza.owl#hasBase>

Results for P11: Missing domain or range in properties.

4 cases | Important 🚨

Relationships and/or attributes without domain or range (or none of them) are included in the ontology. There are situations in which the relation is very general and the range should be the most general concept "Thing". However, in other cases, the relations are more specific and it could be a good practice to specify its domain and/or range. An example of this type of pitfall is to create the relationship "hasWritten" in an ontology about art in which the relationship domain should be "Writer" and the relationship range should be "LiteraryWork". This pitfall is related to the common error when defining ranges and domains described in [3].

- This pitfall appears in the following elements:

> <http://www.pizza.com/ontologies/pizza.owl#hasBase>
 > <http://www.pizza.com/ontologies/pizza.owl#hasIngredient>
 > <http://www.pizza.com/ontologies/pizza.owl#hasTopping>
 > <http://www.pizza.com/ontologies/pizza.owl#isIngredientOf>

- **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!

Results for P13: Missing inverse relationships.

4 cases | Minor 🟡

This pitfall appears when a relationship (except for the symmetric ones) has not an inverse relationship defined within the ontology. For example, the case in which the ontology developer omits the inverse definition between the relations "hasLanguageCode" and "isCodeOf", or between "hasReferee" and "isRefereeOf".

- This pitfall appears in the following elements:

> <http://www.pizza.com/ontologies/pizza.owl#isIngredientOf>
 > <http://www.pizza.com/ontologies/pizza.owl#hasTopping>
 > <http://www.pizza.com/ontologies/pizza.owl#hasIngredient>
 > <http://www.pizza.com/ontologies/pizza.owl#hasBase>

According to the highest importance level of pitfall found in your ontology the conformace 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] Gómez-Pérez, A. "Ontology Evaluation". Handbook on Ontologies. S. Staab and R. Studer Editors. Springer. International Handbooks on Information Systems. Pp: 251-274. 2004.
- [2] Noy, N.F., McGuinness. D. L. "Ontology development 101: A guide to creating your first ontology." Technical Report SMI-2001-0880, Stanford Medical Informatics. 2001.
- [3] Rector, A., Drummond, N., Horridge, M., Rogers, J., Knublauch, H., Stevens, R., Wang, H., Wroe, C. "Owl pizzas: Practical experience of teaching owl-dl: Common errors and common patterns". In Proc. of EKAW 2004, pp: 63-81. Springer. 2004.
- [4] Hogan, A., Harth, A., Passant, A., Decker, S., Polleres, A. Weaving the Pedantic Web. Linked Data on the Web Workshop LDOW2010 at WWW2010 (2010).
- [5] Archer, P., Goedertier, S., and Loutas, N. D7.1.3 – Study on persistent URIs, with identification of best practices and recommendations on the topic for the MSs and the EC. Deliverable. December 17, 2012.
- [6] Heath, T., Bizer, C.: Linked data: Evolving the Web into a global data space (1st edition). Morgan & Claypool (2011).

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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