OntOlogy Pitfall Scanner!

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:

```
                    <rdf:Description
rdf:about="&AfricanWildlifeOntology1;animal"/>
                    <rdf:Description
rdf:about="&AfricanWildlifeOntology1;plant"/>
                    <owl:Restriction>
                        <owl:onProperty
rdf:resource="&AfricanWildlifeOntology1;is-part-of"/>
                        <owl:someValuesFrom
rdf:resource="&AfricanWildlifeOntology1;animal"/>
                    </owl:Restriction>
```

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. **2 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:
› xml:base#Distribution
› xml:base#Habitat

Results for P08: Missing annotations. **35 cases | Minor**

Want to help?

- Suggest new pitfalls
- Provide feedback

Documentation:

- Pitfall catalogue
- User guide
- Technical report

Related papers:

- IJSWIS 2014
- EKAW 2012
- ESWC 2012 Demo

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 no rdfs:label defined:
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Impala
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Xylem
› xml:base#Apple
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Berry
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#tasty-plant
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#PlantParts
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Stem
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Warthog
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#animal
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Omnivore
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#CarnivorousPlant
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#carnivore
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#tree
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#herbivore
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#plant
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Grass
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#leaf
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Elephant
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Root
› xml:base#Distribution
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#RockDassie
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#lion
› xml:base#Parsnip
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Palmtree
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#giraffe
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#branch
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Twig
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#FruitingBody
› xml:base#Habitat
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Phloem
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#is-proper-part-of
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#is-part-of
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#has-part
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#eats
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#eaten-by

- Ontoqual 2010
- CAEPIA 2009

Web services:

- REST Web Service

Developed by:

Follow @OOPSoeg

Results for P11: Missing domain or range in properties. **5 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:
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#eaten-by
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#eats
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#has-part
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#is-part-of
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#is-proper-part-of

• **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: Inverse relationships not explicitly declared. **1 case | 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.

• This pitfall appears in the following elements:
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#is-proper-part-of

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

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 P30: Equivalent classes not explicitly declared. **1 case | Important**

This pitfall consists in missing the definition of equivalent classes (owl:equivalentClass) in case of duplicated concepts. When an ontology reuses terms from other ontologies, classes that have the same meaning should be defined as equivalent in order to benefit the interoperability between both ontologies.

• The following classes might be equivalent:
› http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Stem, http://www.meteck.org/teaching/ontologies/AfricanWildlifeOntology1.owl#Root

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

According to the highest importance level of pitfall found in your ontology the conformace bagde 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"><img
        src="http://oops.linkeddata.es/resource/image/oops_important.png"
        alt="Important pitfalls were found" height="69.6" width="100" /></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.
- [2] Noy, N. F., McGuinness, D. L., et al. (2001). Ontology development 101: A guide to creating your first ontology.
- [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.
- [4] Montiel-Ponsoda, E., Vila Suero, D., Villazón-Terrazas, B., Dunsire, G., Escolano Rodríguez, E., Gómez-Pérez, A. (2011). Style guidelines for naming and labeling ontologies in the multilingual web.
- [5] Vrandecic, D. (2010). Ontology Evaluation. PhD thesis.
- [6] Gómez-Pérez, A. (2004). Ontology evaluation. In Handbook on ontologies, pages 251-273. Springer.
- [7] Rector, A., Drummond, N., Horridge, M., Rogers, J., Knublauch, H., Stevens, R., Wang, H., and Wroe, C. (2004). Owl pizzas: Practical experience of teaching owl-dl: Common errors & common patterns. In Engineering Knowledge in the Age of the Semantic Web, pages 63-81. Springer.
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- [11] Heath, T. and Bizer, C. (2011). Linked Data: Evolving the Web into a Global Data Space. Morgan & Claypool, 1st edition.
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How to cite OOPS!

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```
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```
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}
```

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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