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 P05: Defining wrong inverse relationships.   2 cases   **Critical**

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

• This pitfall appears in the following elements:
› http://example.org/ontology/theatre#reviewOf may not be inverse of http://example.org/ontology/theatre#hasReview
› http://example.org/ontology/theatre#hasActor may not be inverse of http://example.org/ontology/theatre#employedAt

Results for P08: Missing annotations. 1 case   1 case   **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.w3.org/2006/time/TemporalEntity

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.　　21 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:
› http://example.org/ontology/theatre#hasMember could be inverse of http://example.org/ontology/theatre#memberOf

• Sorry, OOPS! has no suggestions for the following relationships without inverse:
› http://example.org/ontology/theatre#hasEmploymentContract
› http://example.org/ontology/theatre#tookPlaceIn
› http://example.org/ontology/theatre#featuredProduction
› http://example.org/ontology/theatre#performsRole
› http://example.org/ontology/theatre#hasPremiere
› http://example.org/ontology/theatre#roleAtTime
› http://example.org/ontology/theatre#isLocatedIn
› http://example.org/ontology/theatre#inProduction
› http://example.org/ontology/theatre#hasPremier
› http://example.org/ontology/theatre#wrotePlay
› http://example.org/ontology/theatre#hasPremier
› http://example.org/ontology/theatre#wrotePlay
› http://example.org/ontology/theatre#hasTimeInterval
› http://example.org/ontology/theatre#hasTimeIndexedRole
› http://example.org/ontology/theatre#hasRole
› http://example.org/ontology/theatre#hasPlay
› http://example.org/ontology/theatre#publishedBy
› http://example.org/ontology/theatre#wasWrittenDuring
› http://example.org/ontology/theatre#hasAct
› http://example.org/ontology/theatre#isInCountry
› http://example.org/ontology/theatre#hasProduction

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

3 cases

The domain or range (or both) of a property (relationships and attributes) is defined by stating more than one rdfs:domain or 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://example.org/ontology/theatre#hasRole
› http://example.org/ontology/theatre#hasActor
› http://example.org/ontology/theatre#hasReview

Results for P36: URI contains file extension.　　Ontology*　Minor

This pitfall occurs if file extensions such as ".owl", ".rdf", ".ttl", ".n3" and ".rdfxml" 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 conformace bagde 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">
<img src="http://oops.linkeddata.es/resource/image/oops_critical.png"
alt="Critical 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).

[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] Bernes-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!

Poveda-Villalón, María, Asunción Gómez-Pérez, and Mari Carmen Suárez-Figueroa. "OOPS!(Ontology Pitfall Scanner!): An on-line tool for ontology evaluation." International Journal on Semantic Web and Information Systems (IJSWIS) 10.2 (2014): 7-34.

BibTex:

```
@article{poveda2014oops,
title={{OOPS! (OntOlogy Pitfall Scanner!): An On-line Tool for Ontology Evaluation}},
author={Poveda-Villal{\'o}n, Mar{\'i}a and G{\'o}mez-P{\'e}rez, Asunci{\'o}n and Su{\'a}rez-Figueroa, Mari Ca
journal={International Journal on Semantic Web and Information Systems (IJSWIS)},
volume={10},
number={2},
pages={7--34},
year={2014},
publisher={IGI Global}
}
```