

Alignment: a collaborative, system aided, interactive ontology matching platform

Sotirios Karampatakis^{1,2}, Charalampos Bratsas^{1,2}, Ondřej Zamazal³,
Panagiotis Marios Filippidis^{1,2}, and Ioannis Antoniou^{1,2}

¹ Open Knowledge Greece, Thessaloniki, Greece
<http://okfn.gr>

{[karampatakis](mailto:karampatakis@okfn.gr), [cbratsas](mailto:cbratsas@okfn.gr), [filippidis](mailto:filippidis@okfn.gr)}@okfn.gr

² School of Mathematics, Aristotle University of Thessaloniki, Greece
iantonio@math.auth.gr

³ University of Economics, Prague, Dept. Information and Knowledge Engineering
ondrej.zamazal@vse.cz

1 Introduction

Ontology matching is a crucial problem in the world of Semantic Web and other distributed, open world applications. Diversity in tools, knowledge, habits, language, interests and usually level of detail may drive in heterogeneity. Thus, many automated applications have been developed, implementing a large variety of matching techniques and similarity measures, with impressive results. However, there are situations where this is not enough and there must be human decision in order to create a link[2]. In this poster we showcase Alignment platform⁴⁵, a novel tool developed to aid crowdsourced entity linking.

2 Alignment: The interactive, collaborative, Link Creation Web Platform

Alignment is a collaborative, system aided, user driven ontology matching platform. As previous studies have shown[1], users should not be overwhelmed with too much information, but enough in order to decide if a mapping should be created or not. With this in mind, we designed our GUI to be as minimal as can be with enough utilities to aid users, either domain or ontology engineering experts on the linking workflow. Multiple users can work on the same project and provide their own links simultaneously and interactively. The platform also offers evaluation and social features, as users can give a positive or negative vote, as well as comment on a specific link between two entities, providing feedback on the produced linksets. The produced linksets are then automatically available through both a SPARQL endpoint and an API. You can see an overview of a typical workflow in ⁶ A user (usually an ontology engineer) has to create a

⁴ <http://alignment.okfn.gr>

⁵ <http://github.com/okgreece/Alignment>

⁶ <https://github.com/okgreece/Alignment/blob/master/readme.md>

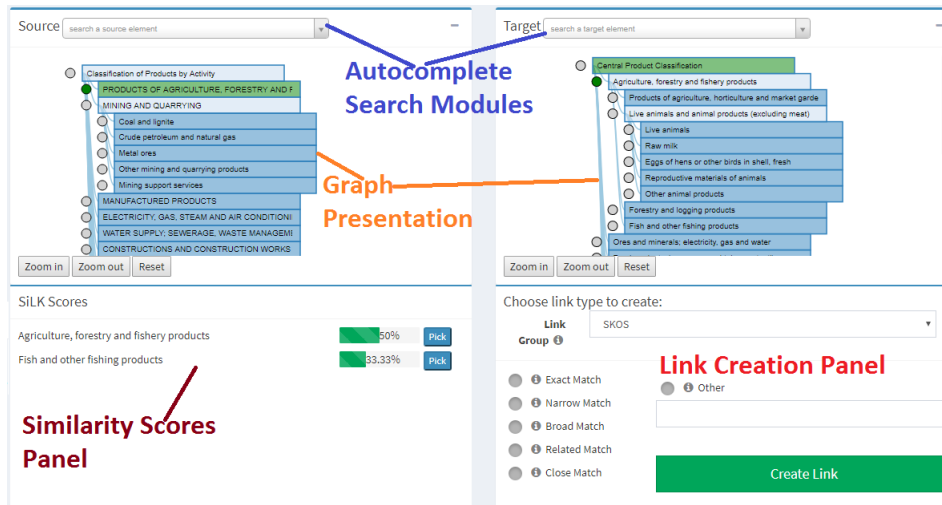


Fig. 1: Alignment GUI

project within the platform. First it is needed to upload the ontologies he wants to produce a linkset. The ontologies get validated and stored on the platform. Then the user has to define which ontology will be used as source and target ontologies consequently. Also he needs to define which similarity algorithm will be used for the system provided suggestions. The user can also choose if the project will be private or public, where multiple users can cooperate to create linksets. Then, upon creation of the project, the platform calculates similarities between the entities of the ontologies and renders the GUI. None of the suggestions provided by the system is realised as a valid link, unless some user decide to create the link. Finally, produced linksets can be exported, or send for crowdsourced validation, through the Voting service.

Acknowledgments

This work has been supported by the OpenBudgets.eu Horizon 2020 project (Grant Agreement 645833).

References

1. Dragisic, Z., Ivanova, V., Lambrix, P., Faria, D., Jiménez-Ruiz, E., Pesquita, C., Groth, P., Simperl, E., Gray, A., Sabou, M., Krötzsch, M., Lecue, F., Flöck, F., Gil, Y.: User Validation in Ontology Alignment, pp. 200–217. Springer International Publishing, Cham (2016), http://dx.doi.org/10.1007/978-3-319-46523-4_13
2. Shvaiko, P., Euzenat, J.: Ontology Matching: State of the Art and Future Challenges. IEEE Transactions on Knowledge and Data Engineering 25(1), 158–176 (2013), <http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=6104044>