

Enumerating Similarity of Ontology Instances in Regard to User Model

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Goals

- ✓ Estimation of similarity between instances of ontological concepts
- ✓ Investigating reasons that caused similarity
- ✓ Proposal of weights to estimate personalized similarity
- ✓ Compute similarity in regard to user model

Comparing Content of Job Offers

Job Offer Portal

Tools | Logged in as **tono** | [View User Model and Logout](#) | [Logout](#)

Add Offer

Faceted Search

Criteria Search

Text Search

Preference Gathering

Cluster Navigation

JAVA DEVELOPER

Job term:
Full-Time

Requirements

- Master degree (depending upon position level) in computer science
- A minimum of two years of software development experience
- Expertise with one or more Java technologies.
- Good communication skills and an ability to work with a diverse team

Salary

- Motivating salary

Job location

Washington, D.C., USA

Contact information

Job Offer Portal

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JAVA DEVELOPER

Job term:
Full-Time (40 hrs per week)

Requirements

- You must have at least a Masters Degree in computer science (or a similar degree)
- 2+ years experience
- Excellent object oriented design and concurrent programming skills useful for developing Java applications
- Ability to communicate.

Salary

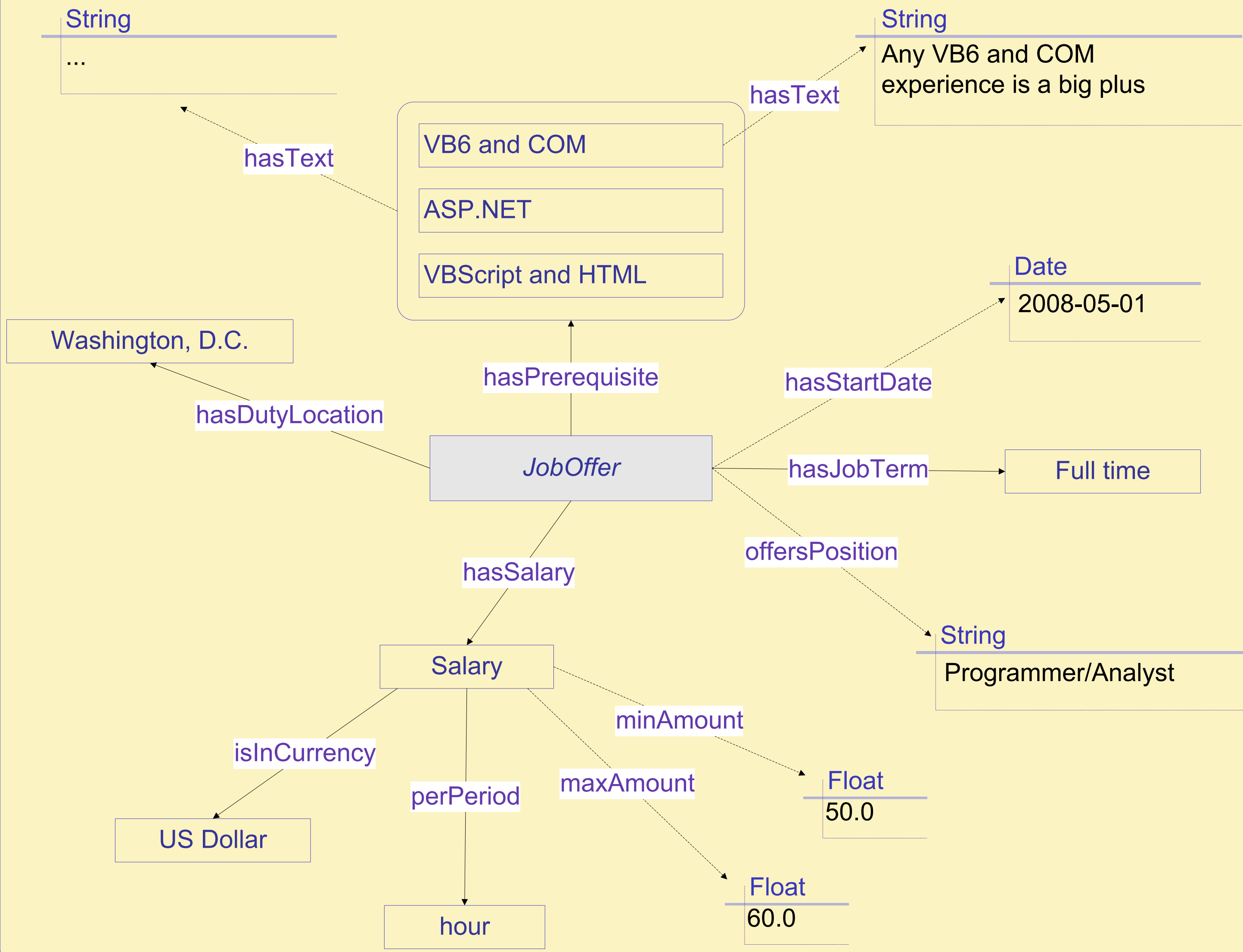
- Motivating salary

Job location

London, UK

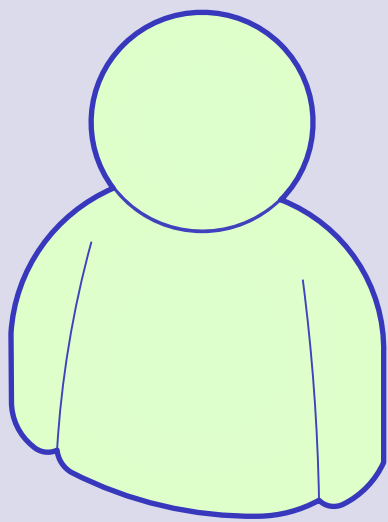
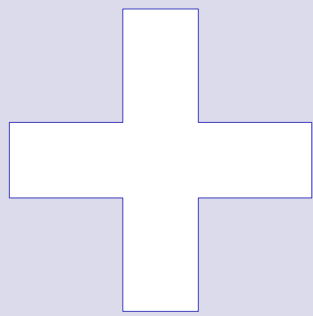
Contact information

Comparing Content of Job Offers represented by Ontology Instances



Similarity Enumeration

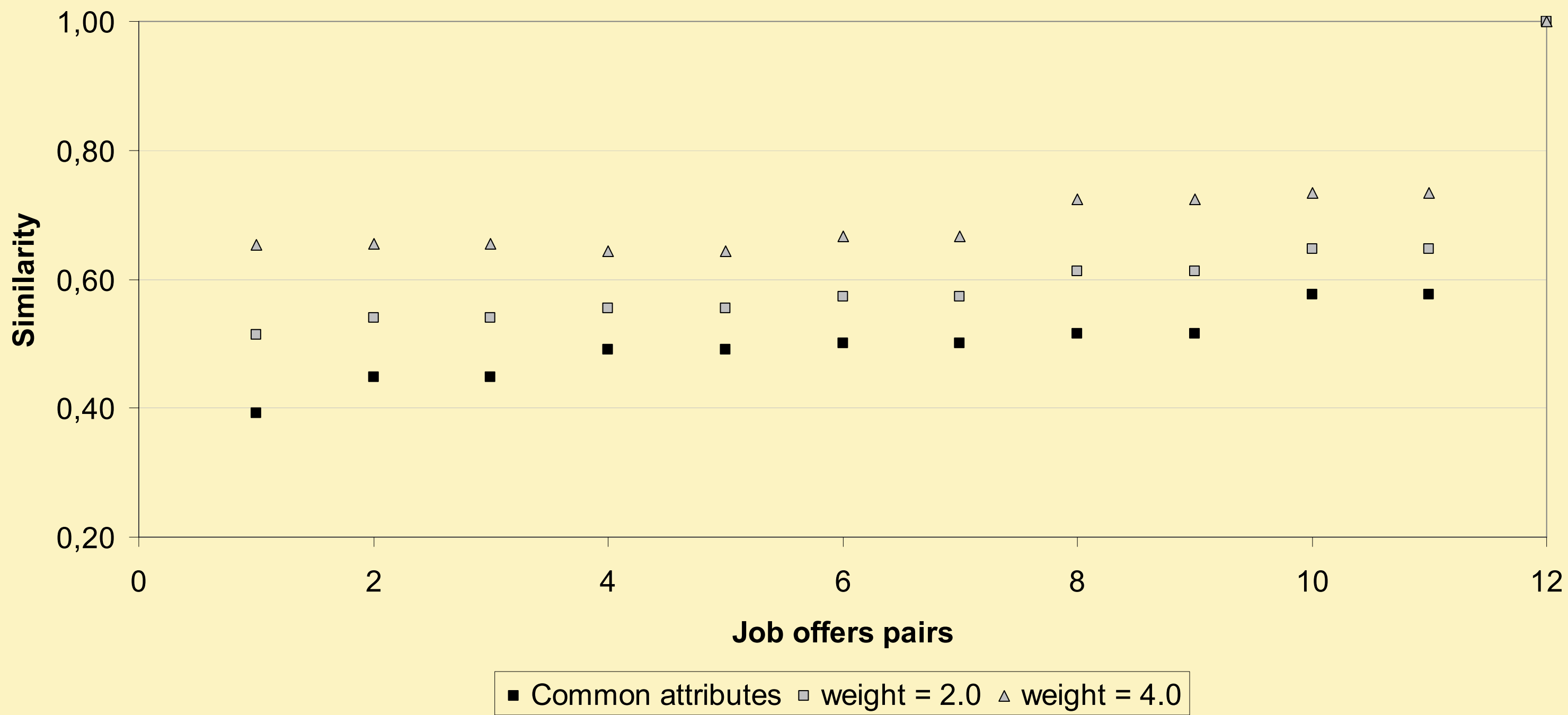
$$sim(InstA, InstB) = \frac{\sum_{i=0}^{|A \cap B|} GeneralSM_i(InstA, InstB)}{|A| + |B| - |A \cap B|}$$



$$sim(InstA, InstB) = \frac{\sum_{i=0}^{|A \cap B|} weight_i \times GeneralSM_i(InstA, InstB)}{\sum weight}$$

weight

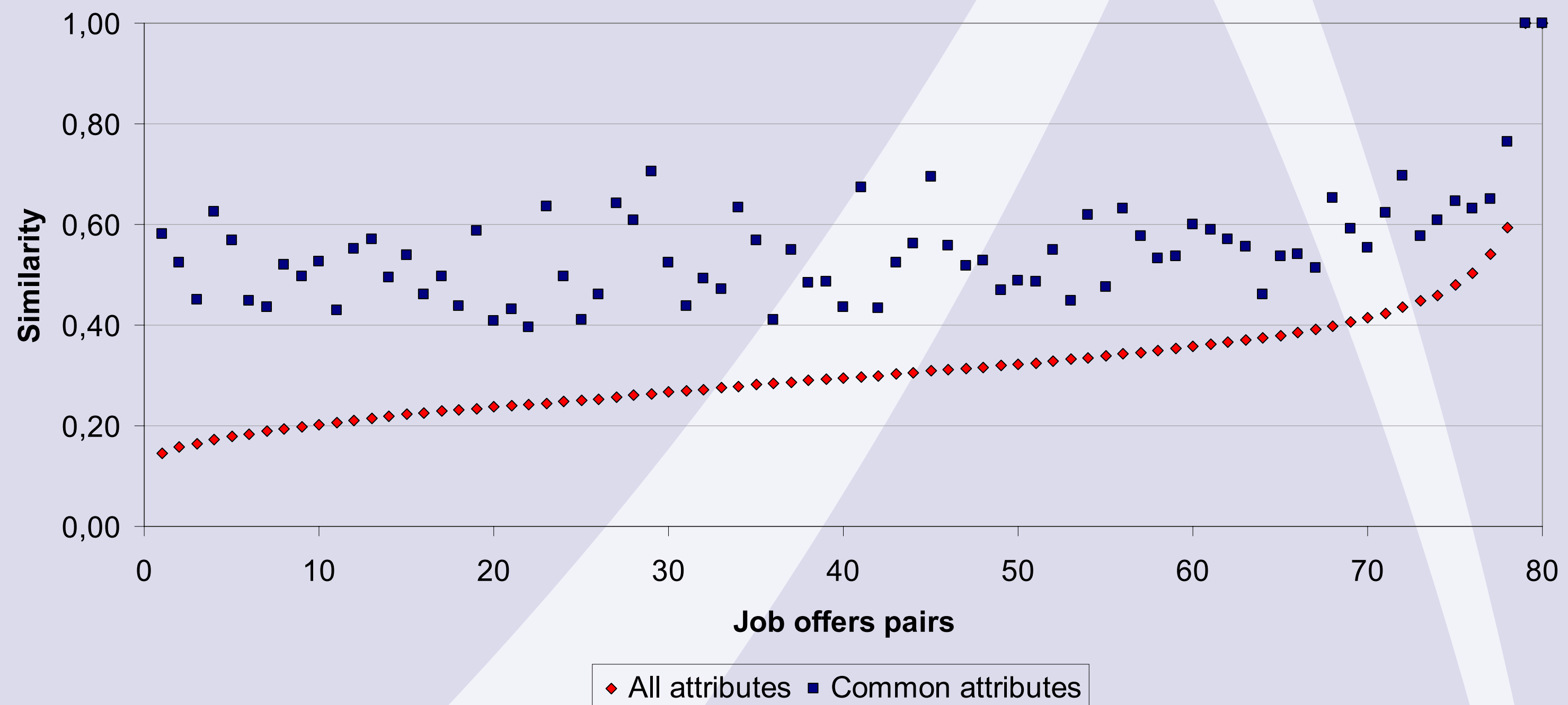
- 1 if there is no correlation between an attribute of the instance and a characteristic in the user model
- w if there is match not only between an attribute of the instance and a characteristic but also there is match between their values.
- other value in the range of previous two values means an approximate match between attribute of the instance and the characteristic in the user model



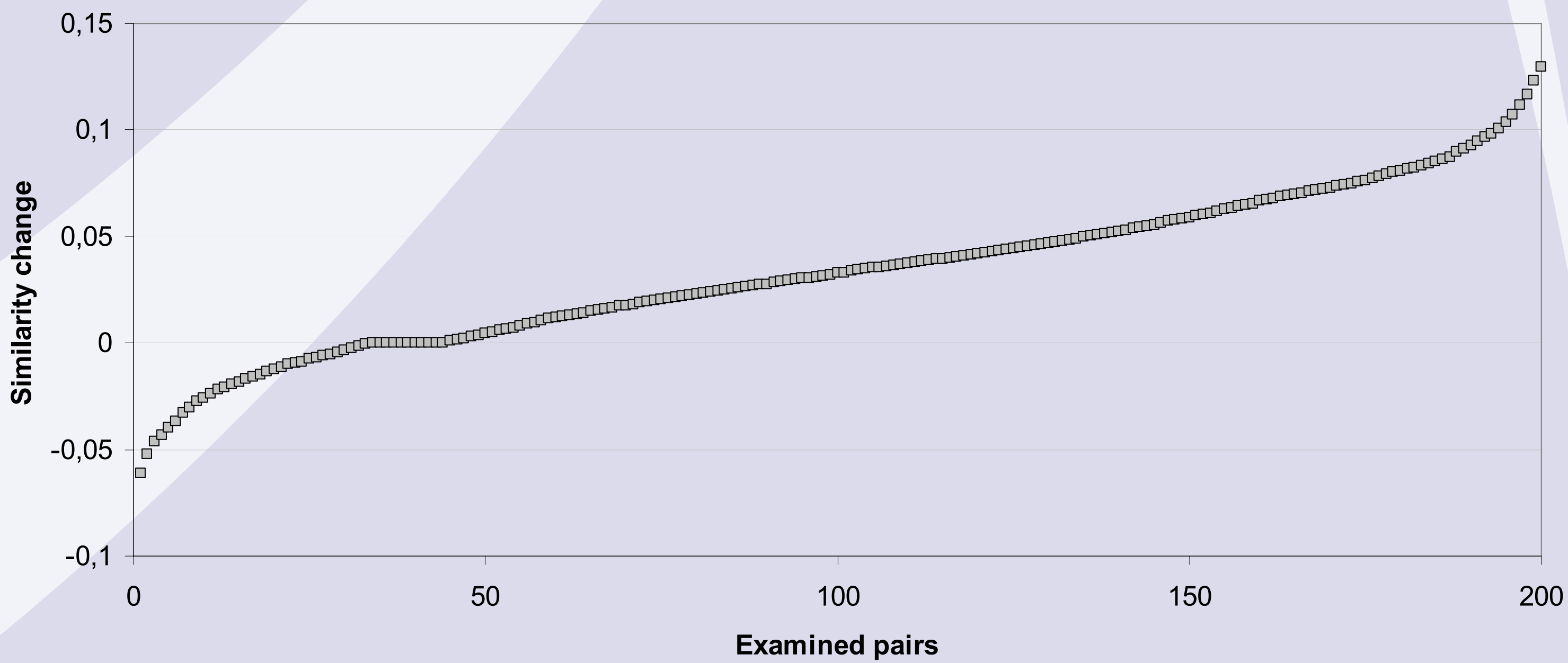
Evaluation

- ✓ Software tool *Concept Comparer – ConCom*
- ✓ Similarity computed for *All attributes* or *Common attributes*
- ✓ JAVA
- ✓ OWL DL models
- ✓ Sesame repository
- ✓ Job offers application domain
- ✓ Sample of 100 instances created in course of the project NAZOU (<http://nazou.fiit.stuba.sk>)

Computed Similarity



Personalized Similarity



Acknowledgement

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