

# Matching translators with texts

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## Aim

The project involves searching for Translators (Experts) from given Categories and linking with Language and Rating.

## Introduction

The project is a system that includes a UI application that searches for experts/Translators for given categories and language and the matched results are displayed in UI application. The project is based on knowledge graphs which is a semantic representation of real-world entities and illustrates the relationship between them.

## Technologies Used

JavaScript and Cypher - to push data to the database  
React and Neo4j React hooks for front end

## Model

This is a model that matches translators to respective categories and languages using database. For a given document text in a particular language that refers to some categories, the model will find the best translator who is an expert in this language and linked to the categories. Data used for the model consists of a set of categories and subcategories. Modelling involves creating node Translators to be linked to nodes of type Domain of Expertise, languages and creating a user interface to display matching these Translators to Categories.

## Algorithm

### Matching Experts to : Categories, Languages, Rating

- 'MATCH(e:EXPERT) MATCH(c:CATEGORY) MATCH(r:RATING) where e.Speciality = c.Title and r.Value = e.Rating MERGE (e)-[:SPECIALISESIN]->(c)'
- 'MATCH(e:EXPERT) MATCH(l:LANGUAGE) where e.Language = l.Name MERGE (e)-[:KNOWS]->(l)'
- 'MATCH(e:EXPERT) MATCH(r:RATING) where e.Rating = r.Value MERGE (e)-[:HASRATINGOF]->(r)'

## Results

Our end result is a UI application where a user is allowed to search for experts in required category and language. Our app gives the results based on user requirements.

Below is the graph database structure of matching experts with categories.

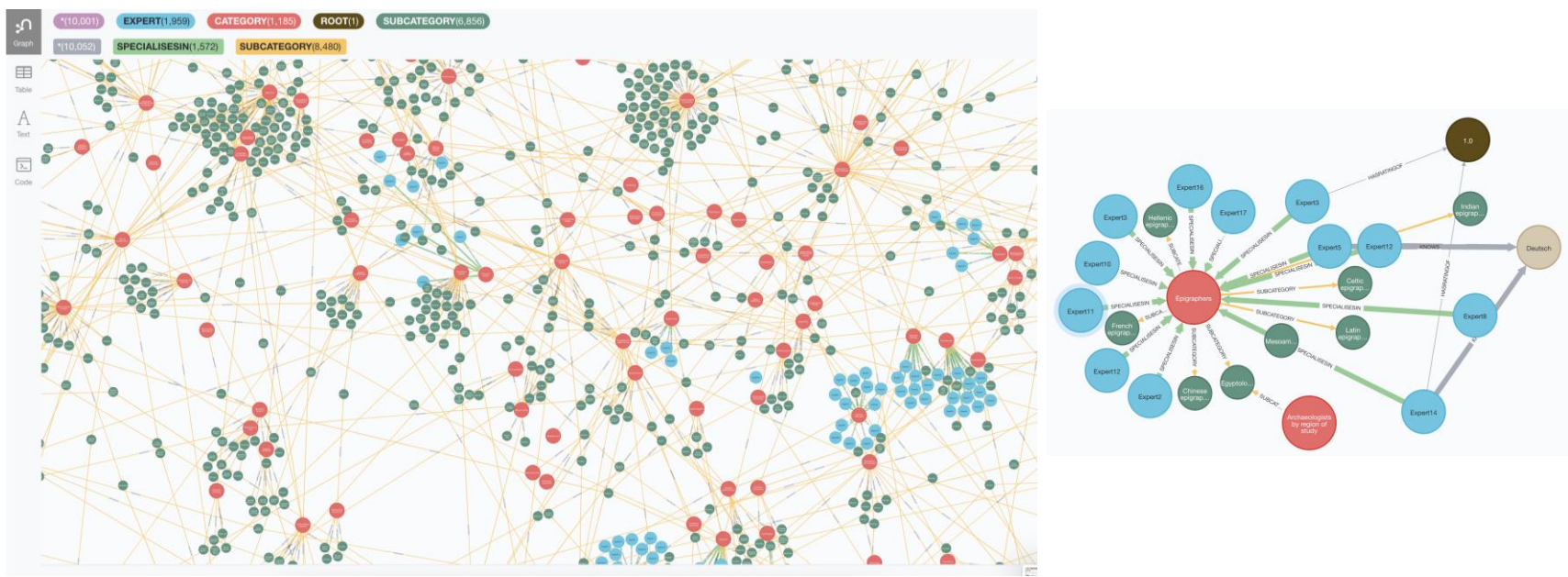


Figure 1: Graphical Representation

## UI Representation

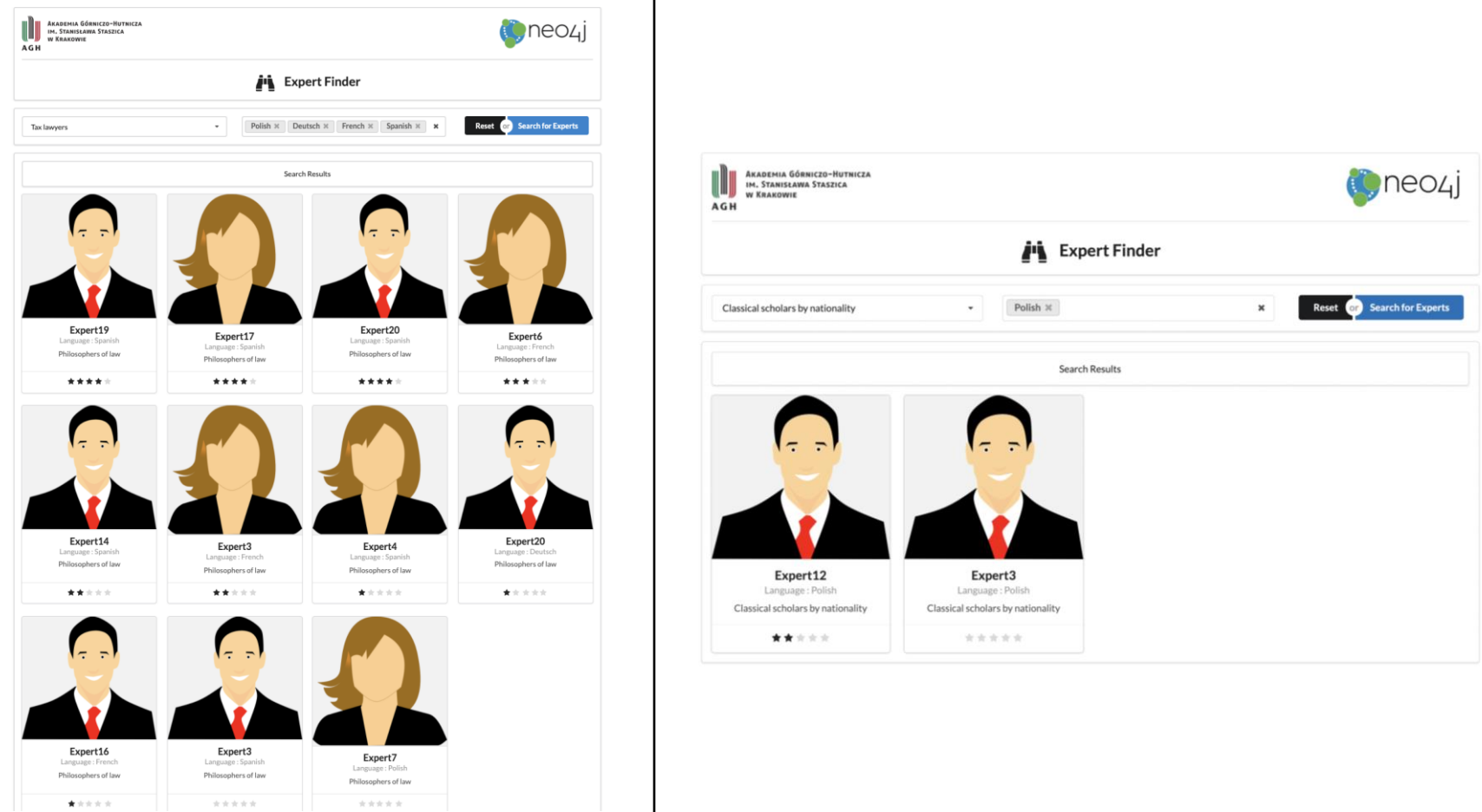


Figure 2: App UI Representation

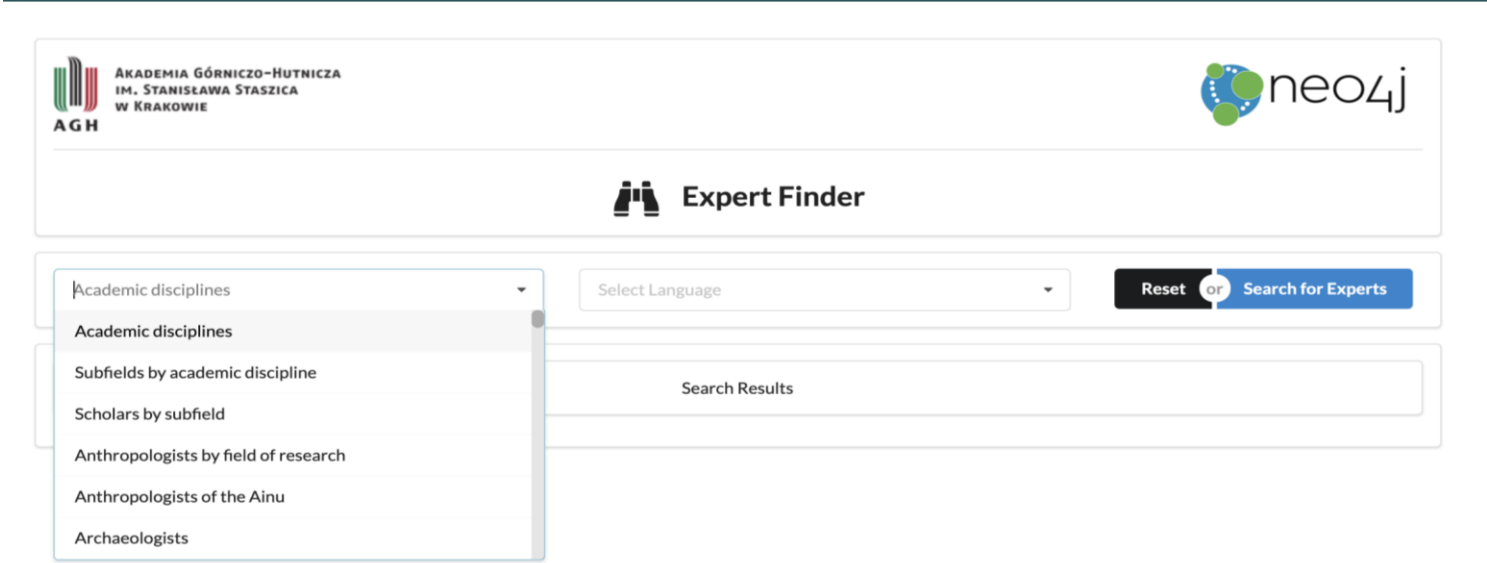


Figure 3: Expert Search

## Conclusion

We have studied and modelled a system with user interface that links the best translator with best rating to the given categories as given document of specific language along with knowledge graph representation of the entities.

## References

- [www.neo4j.com](http://www.neo4j.com)