

ONSET: ONTOLOGY AND SEMANTIC EXPLORATION TOOLKIT



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OVERVIEW

The Ontology and Semantic Exploration Toolkit (OnSET) provides an intuitive user guidance approach for explorative search. The user can select topics of interest and retrieve possible initial relationships, solving the problem of initial search suggestions. These links are then expanded & constrained within a visual editor, which finally retrieves different instances of the searched graph. We additionally provide semantic search capabilities for extending the prototype graph within the query editor.

RELATED SYSTEMS

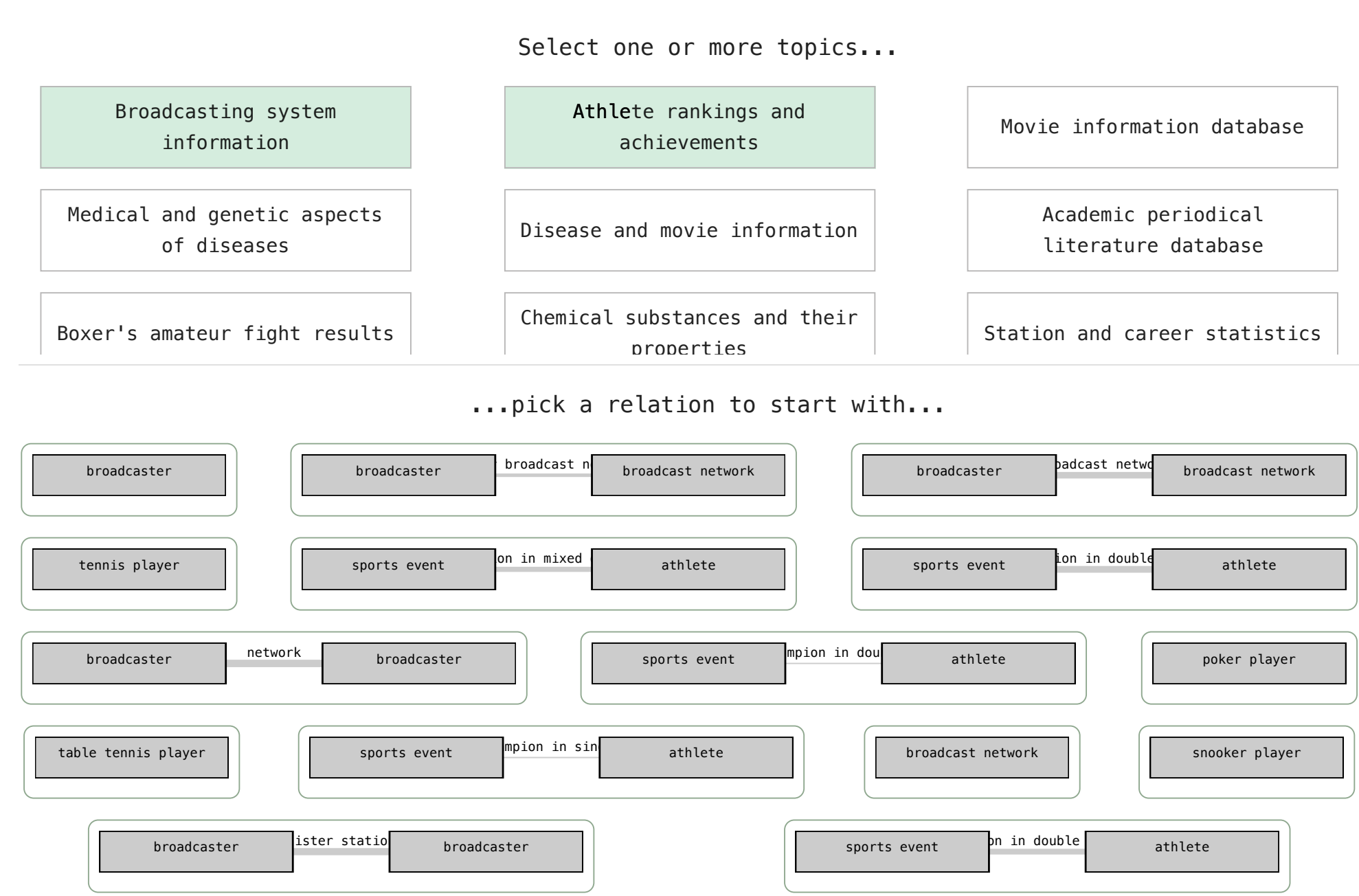
Existing systems lack initial user guidance, making discovery and exploratory approaches difficult; a well-founded user guidance approach is therefore needed [1].

SYSTEM		
<i>NLP Engine</i> [2], <i>RDF Explorer</i> [3], ...	graph editors, example/prototype queries	requires prior knowledge about KGs, no guidance
<i>Sparnatural</i> [4]	simple user interface	no guidance, weak result exploration
<i>Graph Query Suggestion</i> [5]	query expansion with suggestions	no initial suggestions
<i>SPARKLIS</i> [6]	structured natural language queries	no guidance

CASE STUDY

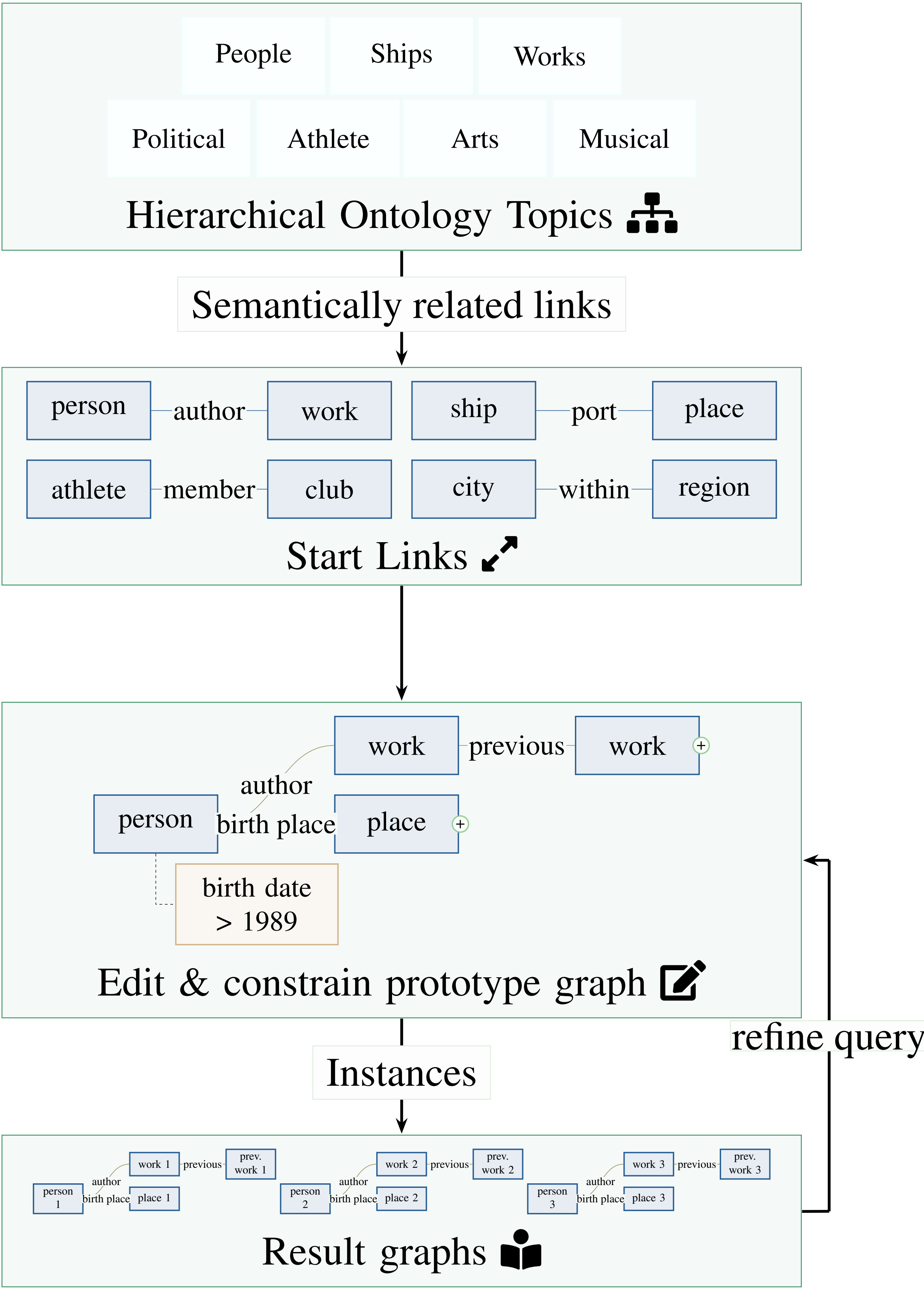
User selects ‘Broadcasting system information’ and ‘Athlete rankings and achievements’. Our system searches for links similar to the selected topic, showing start link suggestions. Next, the user selects a link from the suggested list. OnSET guides the user towards non-empty sets by indicating prevalence in the knowledge graph through the strength of the links.

USER INTERFACE



Topic & Initial Query Selection.

USER GUIDANCE FLOW



FUTURE WORK

- Additional constraint refinements – optional parts of query, improved constraints
- Query expansion/suggestion based on Natural Language Processing / Information Retrieval concepts.
- User study on the applicability of the user guidance

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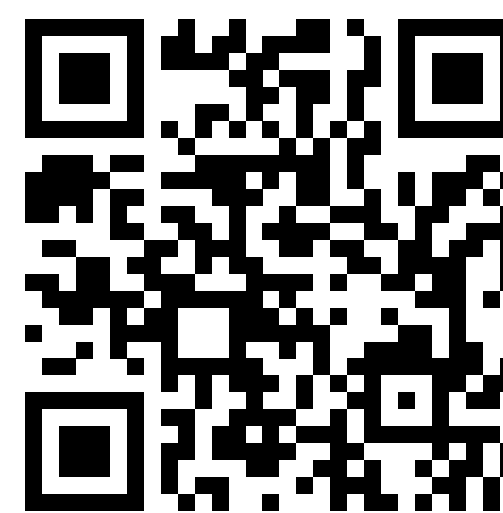
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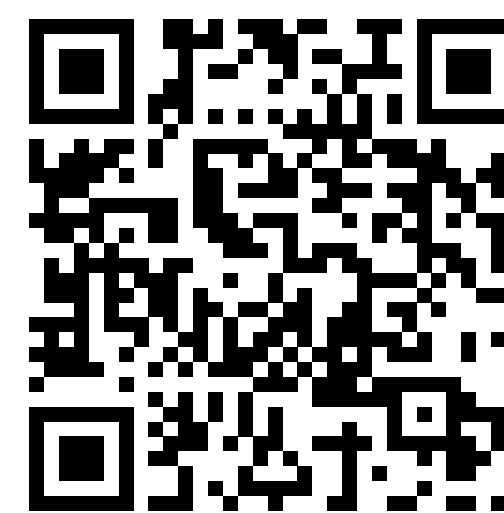
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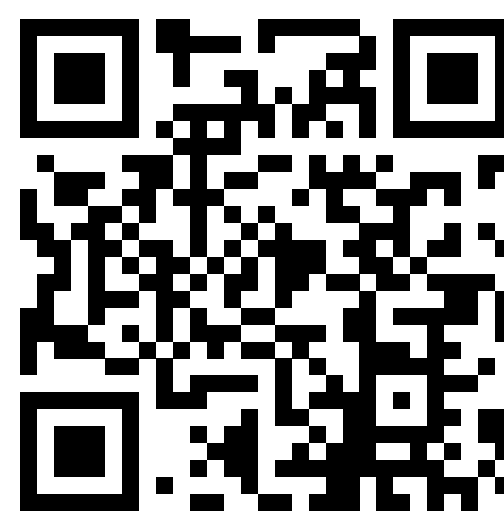
LINKS



Paper



Demo Video



Github