

Graph Query Language

MARKET NEED

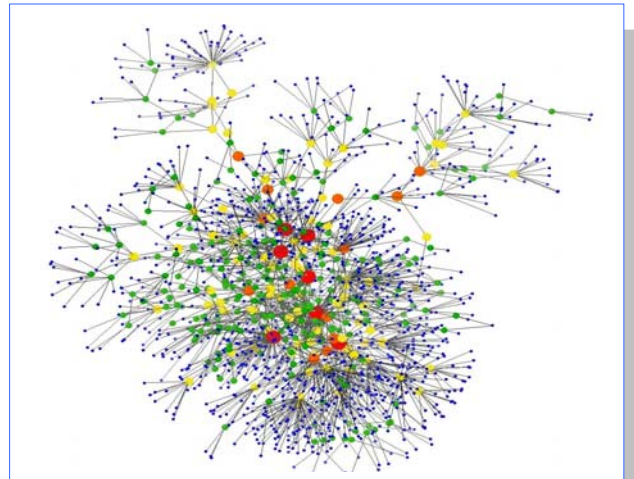
Complex information is often expressed in graphical form and the more complex the information, the more difficult it becomes to search this data.

Systems that support only graph browsing typically provide for step-by-step exploration of the graph. The user may have to wade through many inconsequential paths to find ones of interest. Declarative queries, which describe *what* is to be returned rather than *how* the graph is to be navigated, tend to produce the results that the user desires.

Graph queries should return graphs as results. It is often desirable to iteratively search a graph with multiple declarative queries to progressively narrow or expand the scope of a search. Unfortunately, there is no single standard graph query language as there is in the domain of relational databases (i.e. SQL). Current declarative graph query languages do not return results in graph form, making iterative graph query a tedious process.

PRODUCT DESCRIPTION

Programmers at the Johns Hopkins University Applied Physics Laboratory have developed a declarative graph query language that supports iterative search as well as an approach to iterative ontology query. This approach involves the union of a concept ontology, a graph schema, and associated data instances stored in a separate graph. A query to an ontology returns a graph representation of ontology results, which includes both concepts and instances. Users have the ability to formulate queries using terms from the ontology while the query system, in turn, will perform inference over the ontology to automatically formulate graph queries to the instance graph. The results of the instance graph query will be integrated with the results of the concept ontology and returned to the user. Graph representation of results will enable users to iteratively query the ontology using a declarative query language



Graph Query



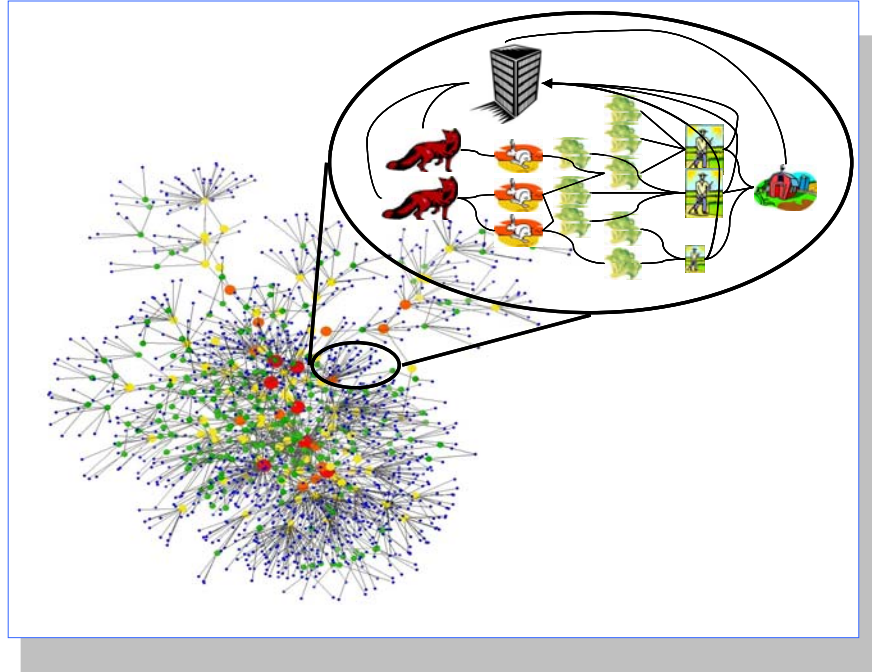
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FEATURES

- Increases the *velocity of analysis* through a comprehensive graph query language for information discovery
- Reduces, by *orders of magnitude*, the time to perform analysis on data represented as a graph
- Declarative graph query language that integrates and unifies multiple analysis approaches
 - Pattern matching
 - Traditional graph discovery algorithms (e.g., shortest path, minimal spanning tree, etc.)
 - Social network algorithms (e.g., centrality, between-ness, etc.)
 - Special analysis features
 - Ontology-assisted graph query
 - Can be overlaid on top of existing relational databases



Graph Queried with GQL

AVAILABILITY

Available for license

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