



## Semantics

### Client Overview

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The client is a renowned company at the forefront of semantic technology wave providing software for data integration and knowledge applications for scientists in pharmaceutical and biotechnology research, besides offering business solutions, such as data mining and integration, business analysis, and general business solutions.

### Challenge

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The client had developed a software application for knowledge management and representation. But the output was complex and overlapping. The data generated during the use of the application by researchers was difficult to manage and was not very user friendly. So there was a need to develop a solution that would provide neat and user friendly representation of a complex data. There was also a problem with exporting of data in other applications developed by client and configuration settings of exported data.

### Solution

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Optra Systems provided the client with a solution that made viewing of knowledge representation neat, easy to read and understand.

- Application allows user to search, integrate and browse formal pathway networks from trusted third parties (IntAct, BioGrid, GO, KEGG, Reactome, etc).
- It also brings diverse data into a semantically-structured environment to explore and integrate it, constructing a powerful knowledge base. All of these functions come with sharing capabilities as well as the ability to apply them to future data streams.

- Application includes query tools which can be integrated. It supports semantic web ontologies and allows users to both fit their data into existing ontologies as well as extend them to fit their own needs.
- This provides a semantic data framework that supports modeling and analysis of properties and relationships across previously incompatible data from multiple data sources.
- To present the complex data effectively different layouts for the application were suggested to the client. The new radial layout that was incorporated made the application more user friendly.
- A new wizard was developed to track the configuration settings of exported data. Third party component (Nevron chart) was used for the graphs.
- The other wizard was also developed to export the data in format of rdfXML , N3, Nt file or triple stores.

## Benefits

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- The application provides a user-friendly solution that simplifies the creation of models that display and connect elements relevant to a knowledgebase.
- It presents goal-driven visualization and filtering of complex data and relationships, improving data driven decision-making. The result is more efficient and well-informed research.
- Application can be used to browse the information integrated from public knowledge sources, including functional information such as pathways or other interactions.
- The developed wizards allow customizing the queries to fit each user's individual needs and then saving them for later viewing.
- Queries can be exported in a variety of data formats. Queries can also be exported for use in other applications.

## Technologies

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- Semantics
- C# and .Net.

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# About Optra Health

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Optra Health is an ISO-certified global organization with deep domain expertise in medical devices, lab automation, life science informatics and healthcare IT solutions. The company provides a fully-scalable, cost-effective OptiShore™ delivery model. This enables customers to choose the optimal balance between on-site, on-shore, and off-shore development that will best address their budget and collaboration requirements. With Optra Health, customers are able to shrink their time-to-market by leveraging practical, building-block based solutions. Committed to clear communication and total transparency, the company consistently meets or exceeds its clients' expectations. Offering a full complement of expert engineering and consulting services, Optra Health is aligned to real business needs applied over the entire product development lifecycle. The robust, scalable and efficient IT infrastructure of the company, together with its outstanding project management team, consistently ensures superior results. Optra Health's global delivery model helps its customers cut costs by about 50% without compromising on quality and realize a 200% improved production cycle.

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## Contact Optra Health Today

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