

Date: 11 October 2016
Project: Profoundur

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Number: Must be dynamic w/ll

Query Interface

Queries determine the scope of nodes and links of interest (interest set)
- Use path ranking by attributes (flow rate, exp data) or by path length or something.

The idea

1) Query the network to define interest set of nodes and links.

Query returns multiple ranked sets and user selects (like PathFinder)

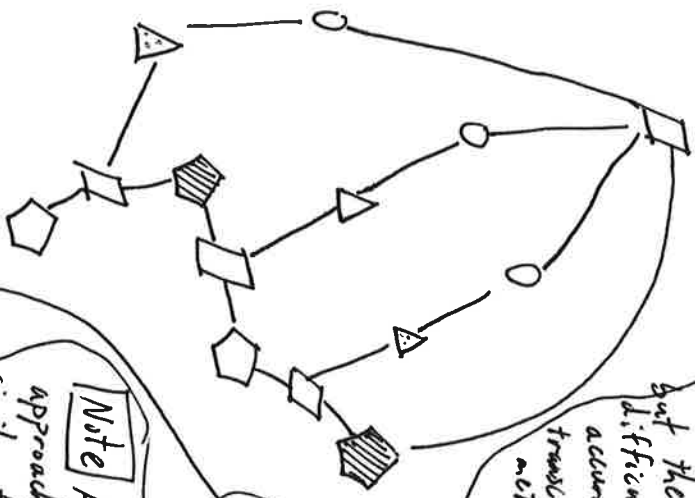
Also support experimental data-dependent auto-query recommendations.

2) User selects nodes, and links, and relations form interest set to show according to desired detail. Support variety of visual encodings according to priority.

Notes
Study literature for examples of visualization of multi-dimensional networks (such as PathFinder). How to handle the dimensionality?

Main View

Maybe show the entire set initially? or start simple?



The genes are connected, but the connection is difficult to represent accurately without transcripts, proteins, and metabolites. Really genes could relate in multiple ways that would be ambiguous without the other node types to clarify.

I think the understandability of this strategy would be limited. Think about it. Song connecting me go through others as above.

For example which relations should be links and which should be regions (containment)?

Note: An alternative approach: use a strategy similar to Entourage. Use separate views for networks of different dimensions (types of nodes and links) with link/portals between these sub-network views.

Network Builder

Node Selector
Link Selector

Network Dimensions

The set of nodes and links is dependent on the query. Query defines nodes and links in interest set. Then select more specifically from that set.

Node Selector

(select to include) turn on/off

- Genes
- Transcripts
- Proteins
- Metabolites

Maybe also allow drag-and-drop ranking to prioritize

Link Selector

In Code

- Expression
- Regulation
- Transport
- Catalysis
- Reaction

Consider how to maintain point-of-reference as the network representation changes. Let user specify reference node to highlight or anchor as network changes. Also be give automatic recommendation from query or node attributes.

Data Mapper

Select which data to show and how.