THE DIGGING PROJECT: VISUALIZATION EXPERIENCE

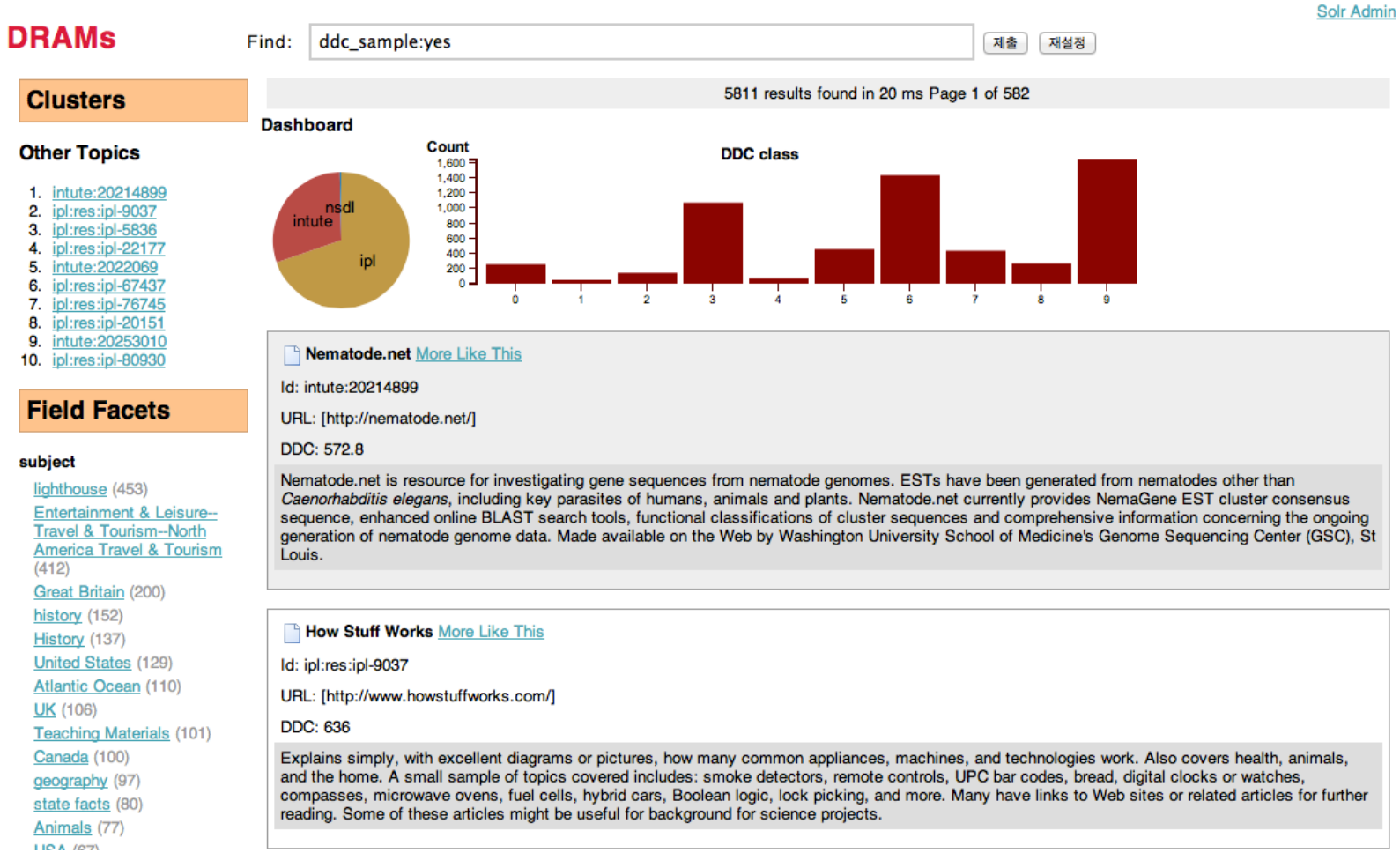
Visualization Experience

- The dashboard experience
- The query expansion experience
- The network analysis experience

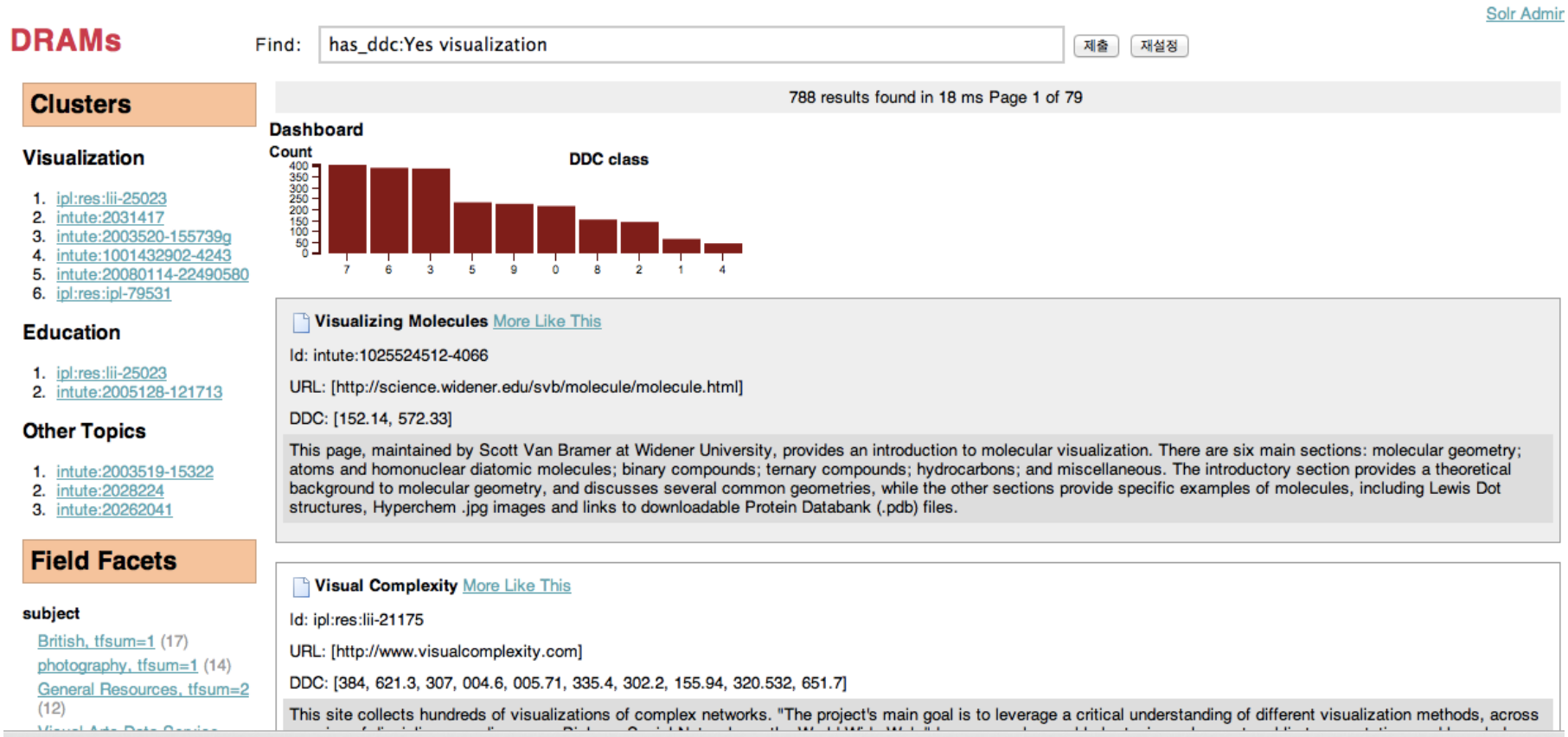
Dashboard Experience

- Pluggable interface built into the Solr browsing environment (DRAMs or Mimas)
- Using JavaScript and D3.js to enhance visual and interaction experience
- To visualize and interact with
  - the most frequent DDC concepts from search results
  - the most frequent keywords from search results

Dashboard Experience



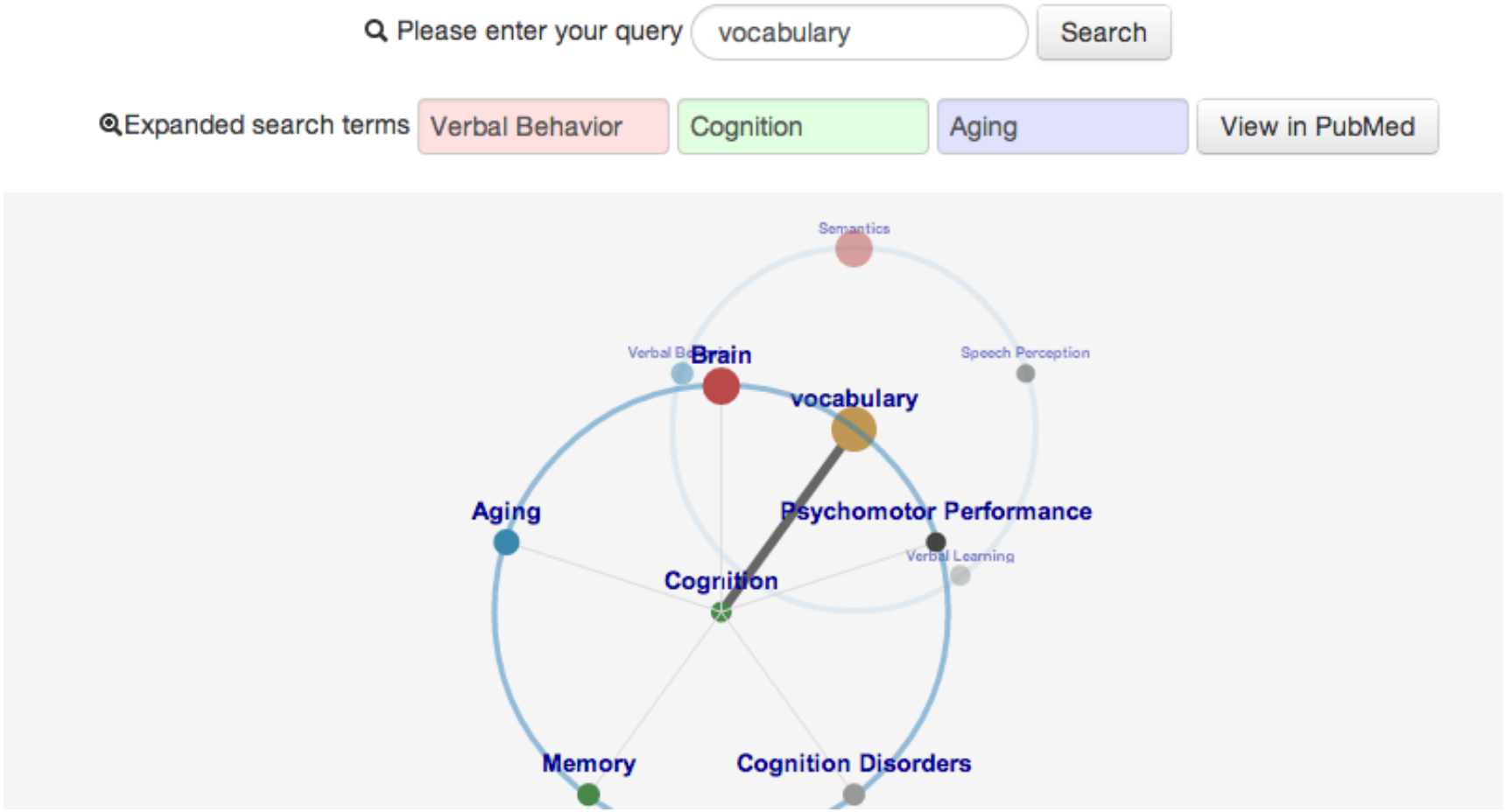
Dashboard Experience



Query Expansion Experience

- Identify terms (or classification categories) most related to the user's query
- Visualize the term relationships based on search results or collections
- Let user pick-and-choose (visually) the related terms to update the query or iteratively build another query.

Query Expansion Experience

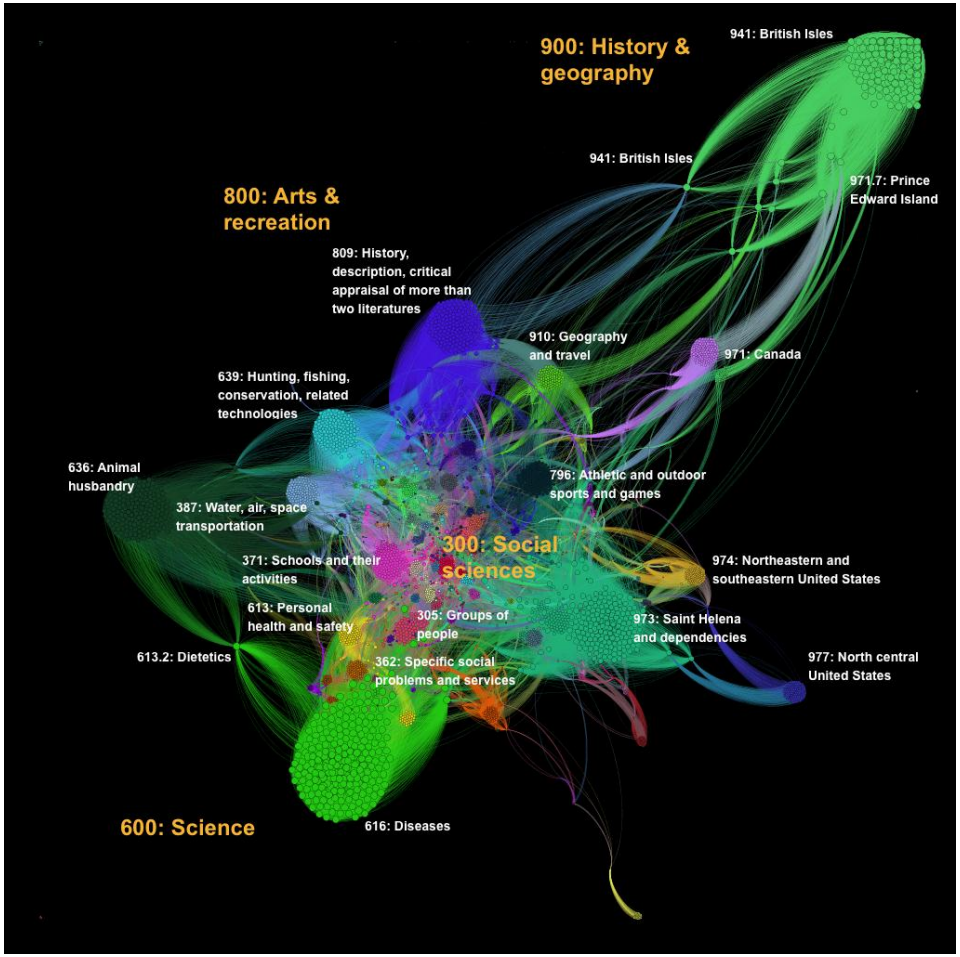


Network Analysis Experience

- Build a DDC concept-to-concept graph
  - Two nodes (concepts) are connected if their similarity score exceeds a certain threshold
  - Experimentally decide the threshold to produce the best graphs
  - By comparing a range of thresholds with clustering quality metrics and network analysis metrics
- Similarity scores: calculated from the DDC codes retrieved from DISTIL

Network Analysis – Global Views

- Visualize the collections as a whole



Network Analysis – Interactive Views

- Exported Gephi generated graphs into JavaScript based interactive/web-based sigma.js (sigmajs.org)
- Let users interact with the graph through the browser:
  - Overview → Show the distribution of all concepts and their structural/content-based clusters
  - Details → Selectively show the node labels
  - More details → By mouse over, show more detailed information of the nodes

Network Analysis – Interactive Views