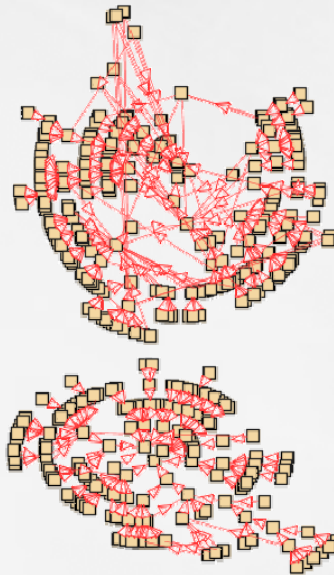


# Jambalaya *Express*

## Ontology Visualization on Demand



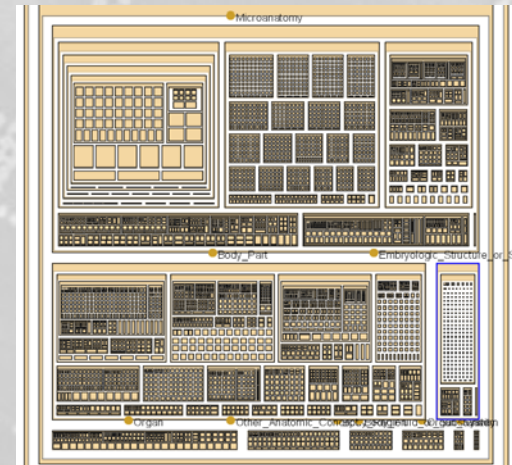
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# A Short History

## Short History

Now?

Scalability

Express

Query View

Where Next?

- Why Viz at all?
  - Human support – ontologies not just read by machines!
  - Pictures & diagrams support understanding (hopefully!)
- Other Approaches
  - OntoViz, OWLViz, TGViz, ezOWL
  - IsaViz: visual RDF editor
  - Many many graph-like visualization tools!
- What is Jambalaya?
  - Jambalaya = SHriMP + Protégé & Protégé-OWL glue
  - What is SHriMP?
    - Nested (or un-nested) graph
    - Originally for software understanding
    - Has other plug-in variations (eg. Creole)
    - Smooth animated zooming & layouts
    - Embedding of AWT/Swing widgets (eg. Protégé forms) within viz

# Where are we now?

Short History

Now?

Scalability

Express

Query View

Where Next?

- Still thinking...
  - Where should a visualization be?
  - When would the user want to see it?
  - How is the data best represented in the viz?
- Fundamental Visualization Question
  - How can we provide a **useful** visualization at the moment a user **needs** it?
- Need better support for task-driven “visualization-on-demand”
  - Viz should be available from other tabs
  - Viz should immediately answer a specific question
  - Viz should not take too long to generate

# Scalability Challenges

Short History

Now?

Scalability

Express

Query View

Where Next?

- NCI Thesaurus
  - Good scalability test-bed
  - OWL client-server database project
  - Over 1 million rows in table
- Incremental loading
  - Progress dialog with cancel
  - Confirmation if potentially too much data
  - Nested graph approach helps (like a tree widget)
- Data Filters
  - Ex. Don't show me any individuals/instances

# JambalayaTab - Express

Short History

Now?

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Where Next?

The screenshot displays the JambalayaTab Express interface. At the top, there are tabs for OWLClasses, Properties, Forms, Individuals, Metadata, and Jambalaya. Below this is the CLASS BROWSER for the project 'Thesaurus'. The Class Hierarchy is listed on the left, including categories like Immune\_System\_Part, Integumentary\_System\_Part, Mediastinum\_Part, Mesentery, Musculoskeletal\_System\_Part, Nervous\_System\_Part, Axon, Central\_Nervous\_System, Central\_Nervous\_System\_Part, Dendrite, Nerve, Nissl\_Body, Node\_of\_Ranvier, Olfactory\_Chemoreceptor, Perikaryon, Peripheral\_Nervous\_System, Peripheral\_Nervous\_System\_Part, Cementum, Opening\_of\_the\_morax, Organ\_Capsule, Organ\_of\_Special\_Sense\_Part, Reproductive\_System\_Part, Respiratory\_System\_Part, Sinus, Tissue\_Part, Urinary\_System\_Part, Body\_Region, and Cavity. A vertical toolbar in the center contains several icons, with a blue oval highlighting a group of icons labeled 'Express View' buttons. A red arrow points from this toolbar to a network diagram on the right, labeled 'Drag-n-Drop'. The network diagram shows a hierarchy of classes: Afferent\_Pathway, Autonomic\_Nervous\_System, Autonomic\_Ganglion, Parasympathetic\_Nervous\_System, Sympathetic\_Nervous\_System, Visceral\_Efferent\_Neuron, Pathway, Ganglion, Nerve\_Plexus, Peripheral\_Nerve, and Sensory-Somatic\_Nervous\_System. A blue box at the bottom left of the diagram is labeled 'Root Classes'.

“Express View” buttons

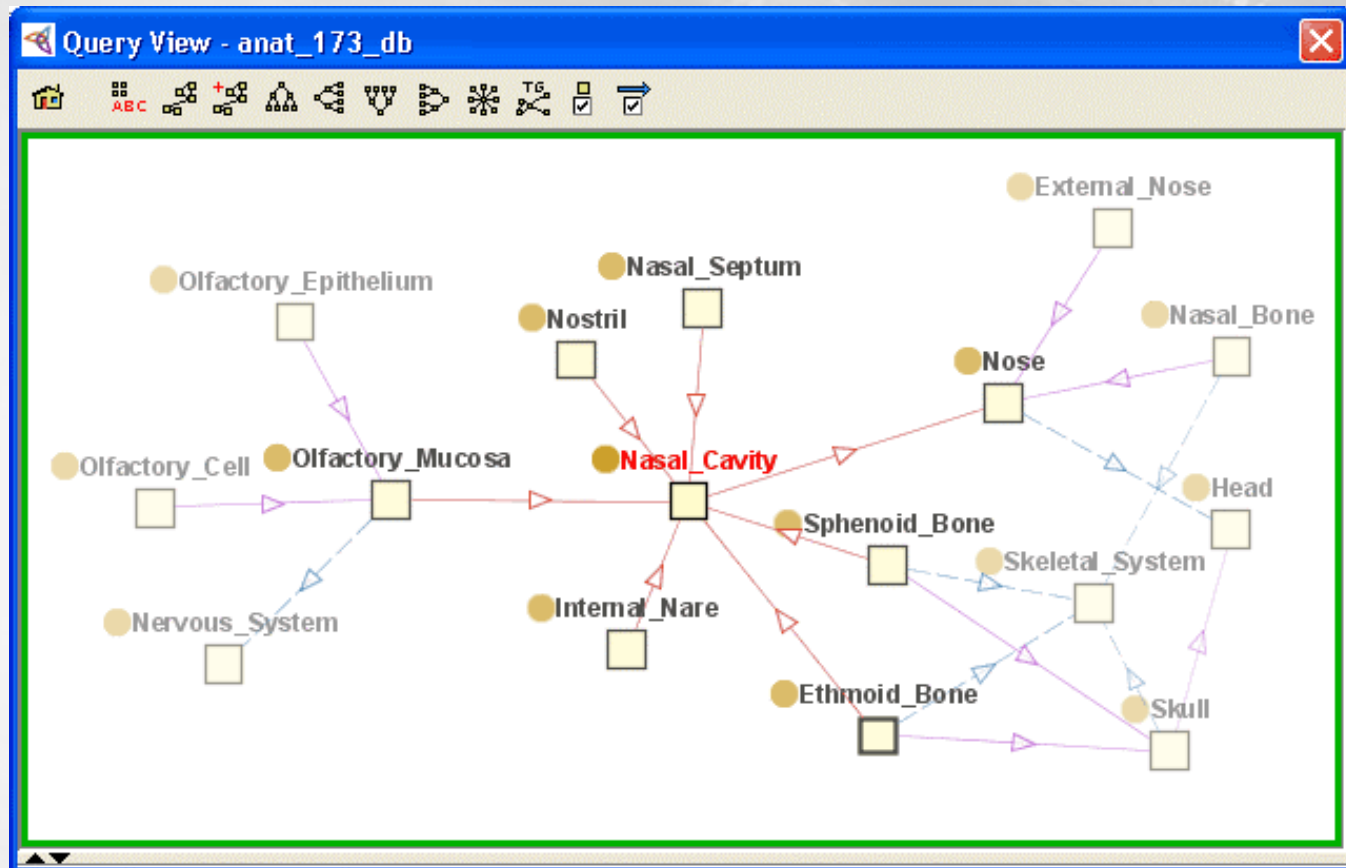
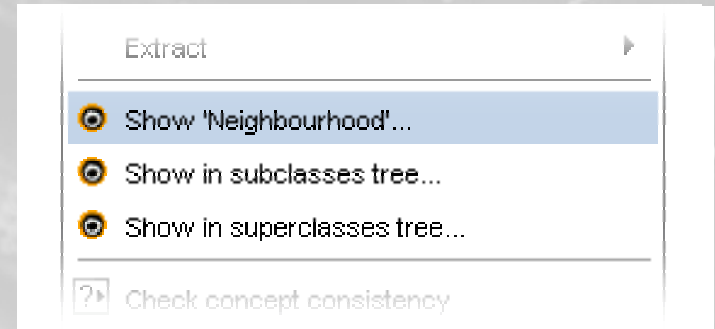
Drag-n-Drop

“Root Classes”



# Query View

- Bottom up approach instead of top down (like others)
- invoked from Class' right-click menu



Short History

Now?

Scalability

Express

Query View

Where Next?

# Where Next?

Short History

Now?

Scalability

Express

Query View

Where Next?

- More Express Views
  - Problem! What should they be? Each usage of Protégé is different! Multiple ‘meta-model’ variations.
- User-defined “interesting” nodes and arcs
  - Inspiration: next presentation, *Selective Ontology Viewer*
  - Automatic working set and Degree-of-Interest
- User-defined mapping from Protégé objects to Jambalaya objects and visual variables, and “graph transformations”
  - Ex. Show subclasses of a particular class in blue
  - Ex. Show certain classes (eg. reified relations) as arcs
  - Inspiration: IsaViz Graph Stylesheets (GSS)
- Ontology-Driven Ontology Visualization
  - One approach: CVF (Neil Ernst Master’s Thesis)
  - Inspiration: *Large Model Visualization* from this morning
- Automatic Image Retrieval - for fun(?) 😊

Questions, comments,  
suggestions...

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Download ... "soon" ...

[www.thechiselgroup.org/jambalaya](http://www.thechiselgroup.org/jambalaya)

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