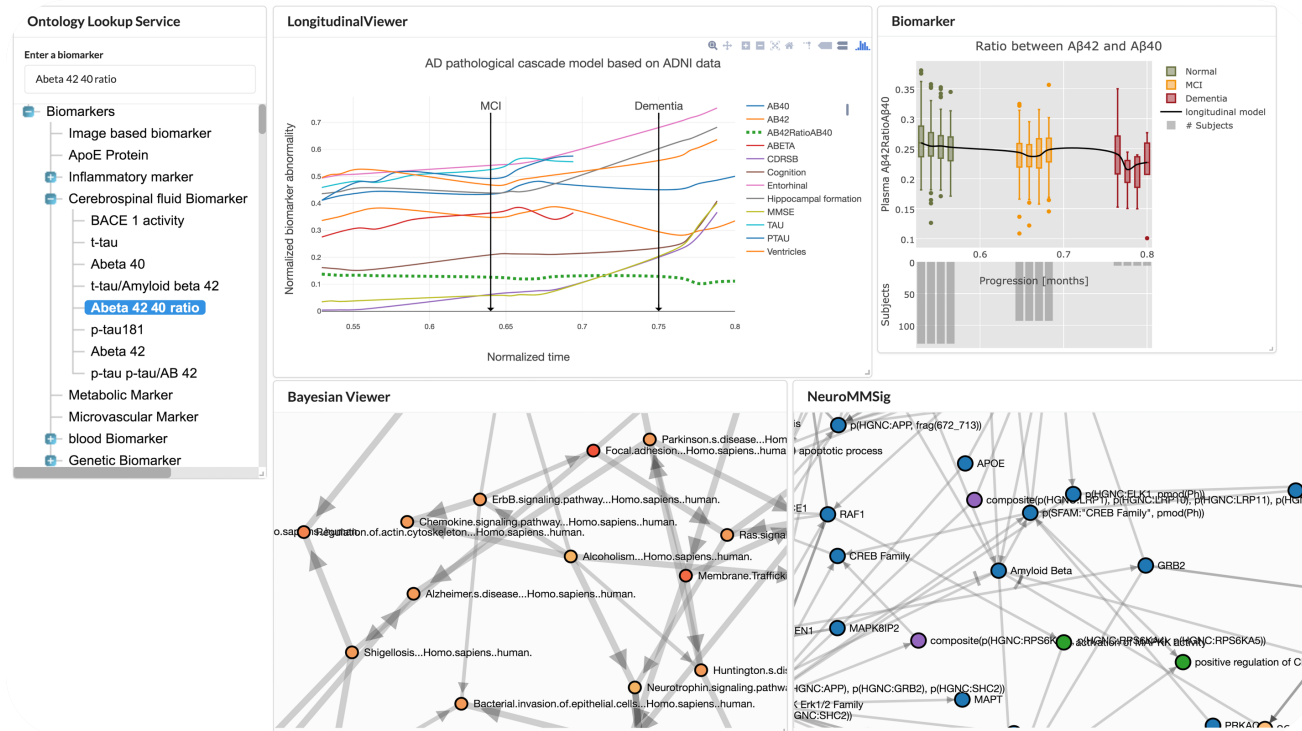


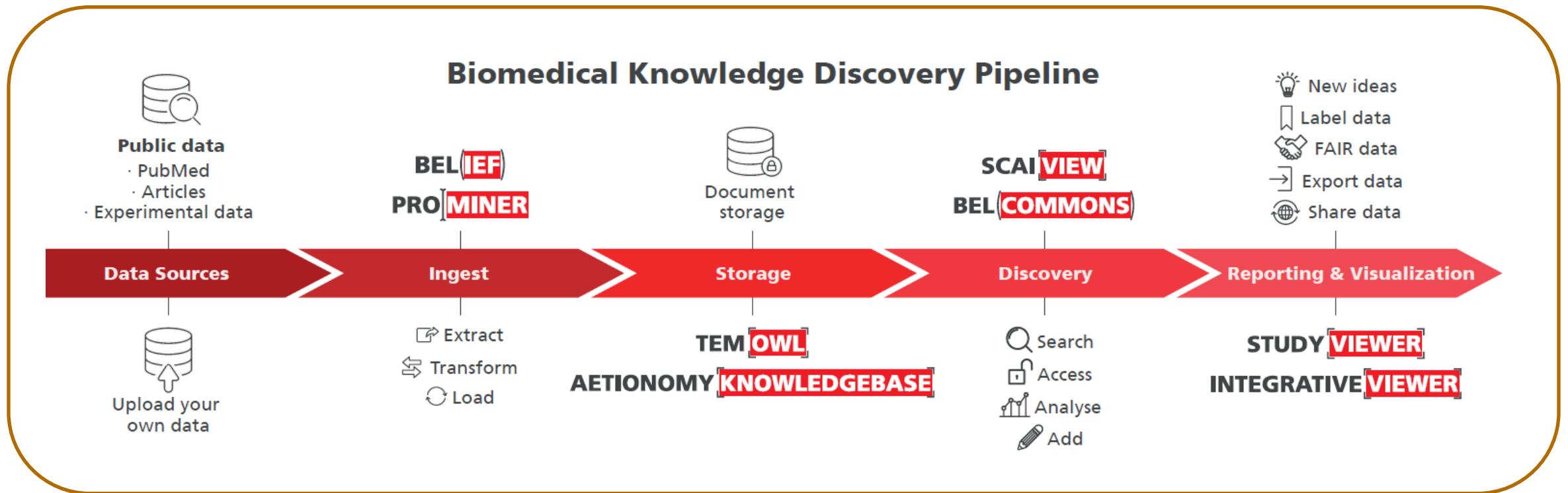
# SEMANTIC INTEGRATION OF MULTIMODAL, MULTISCALE INFORMATION IN VIRTUALBRAIN CLOUD

Aliaksandr Masny



# Current status of the Knowledge Discovery Pipeline

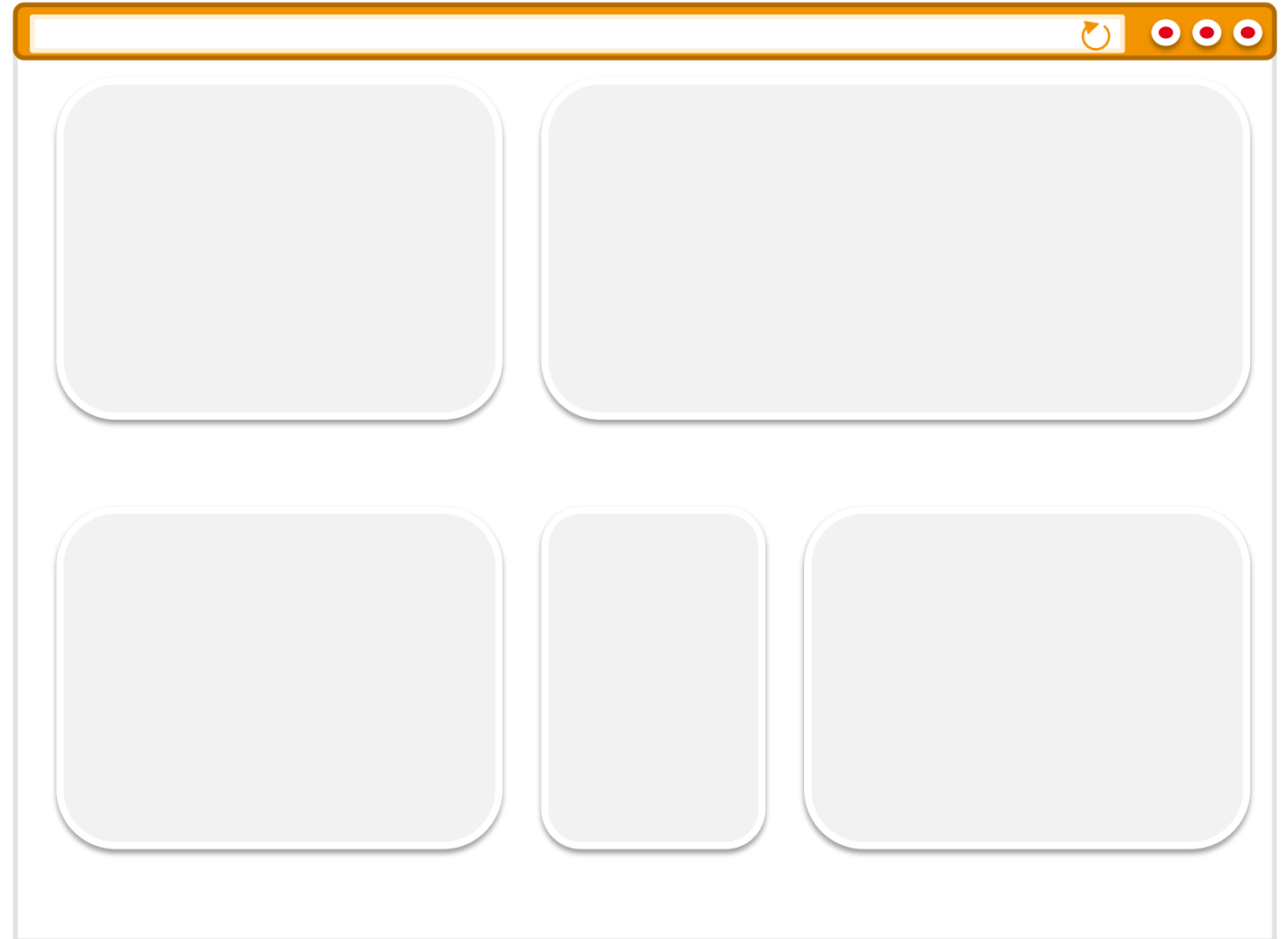
- FrOSCon 2018 -



# **Interactive Multi-facet Visualization Application for Neuroscience Research**

# Principle 1: Multiple Views on One Screen

- ❖ Multiple views are part of one application, displayed as facets

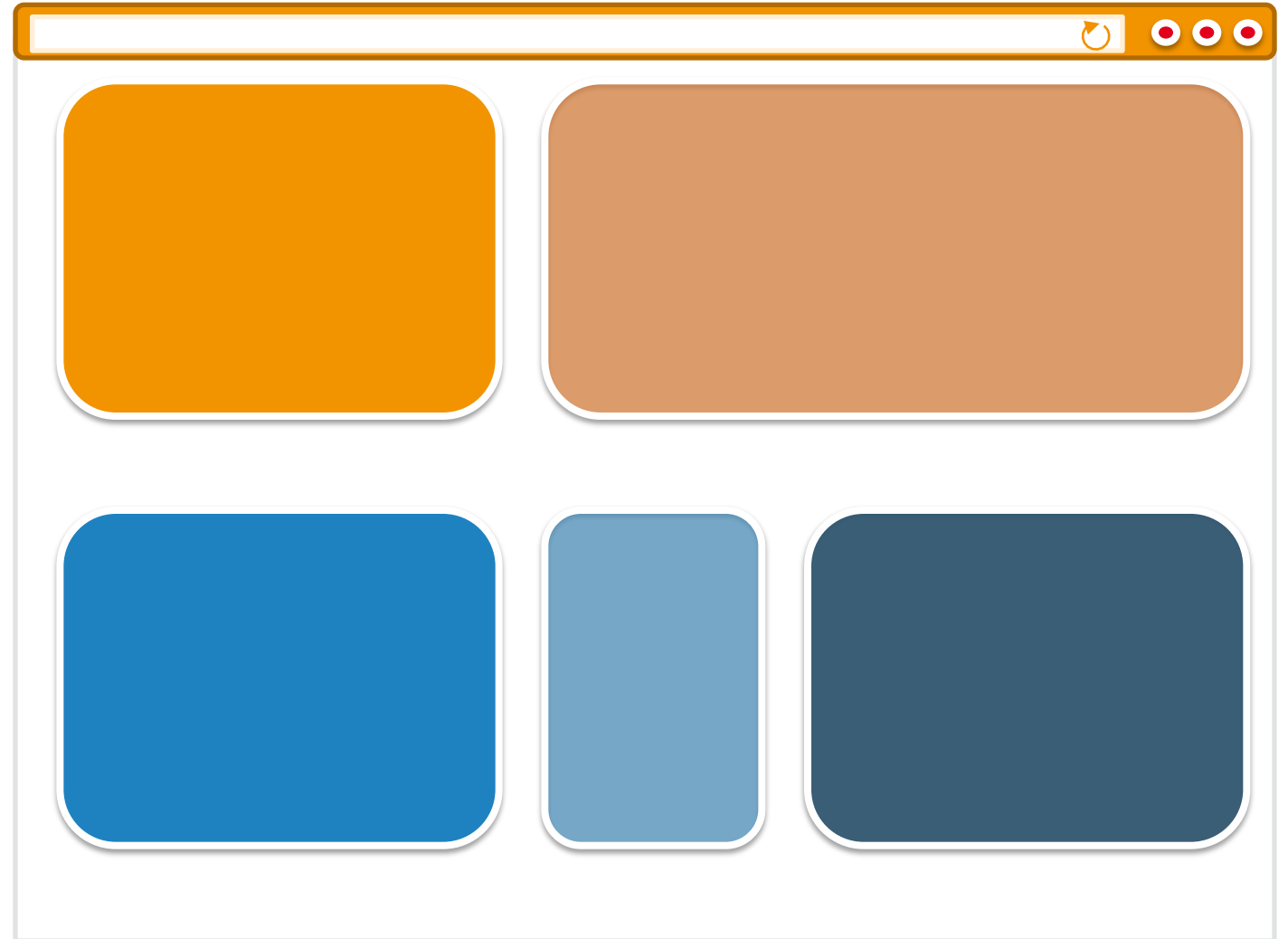


# Principle 2: Different Data and Knowledge Facets

- ❖ All views show different facets (modalities) of data and knowledge

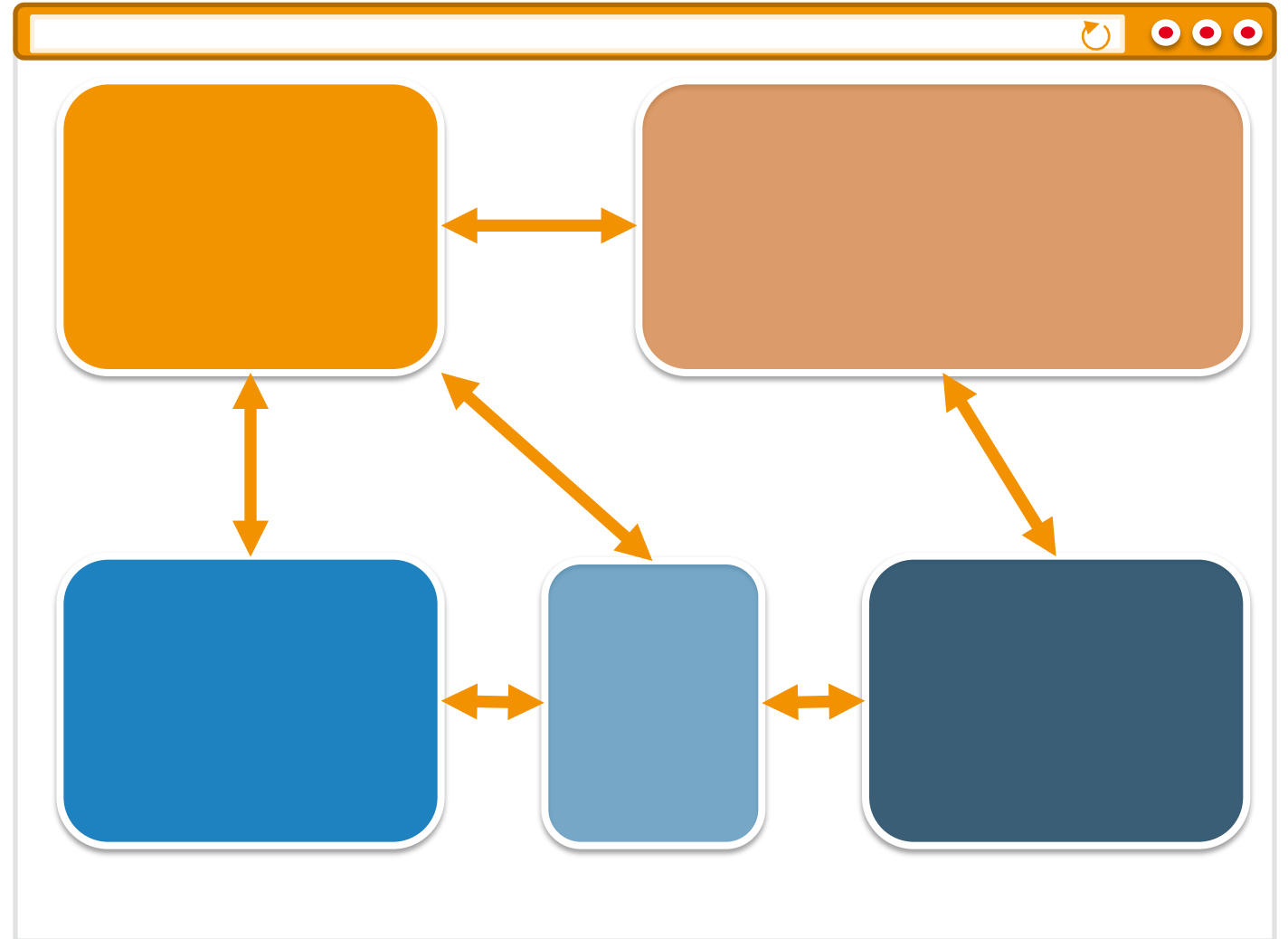
- Examples of facets:

- ❖ NeuroMMSig mechanisms
- ❖ Biomedical Literature
- ❖ Biomarker data



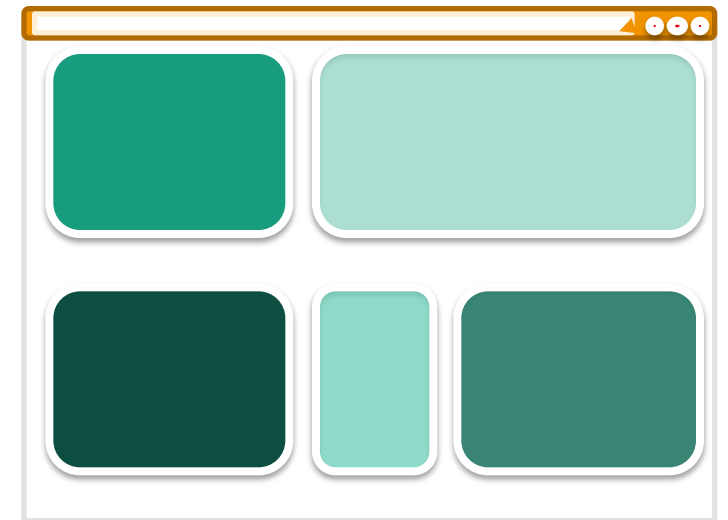
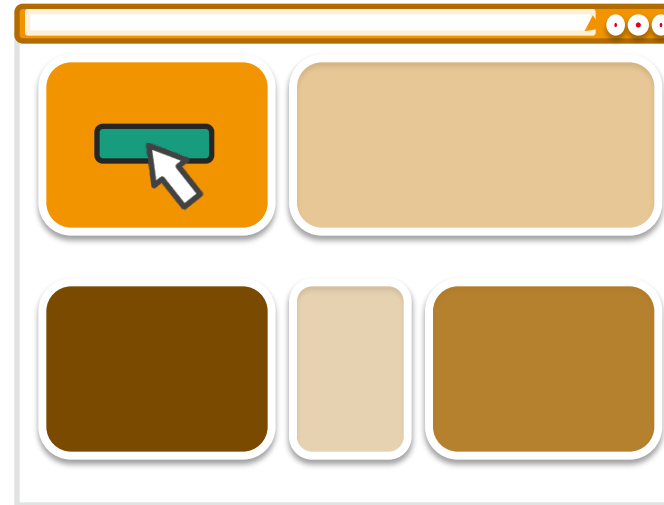
# Principle 3: Shared Semantics (Linked Data)

- ❖ All data and knowledge facets are linked with a standardized vocabulary



# Principle 4: Dynamic Updates

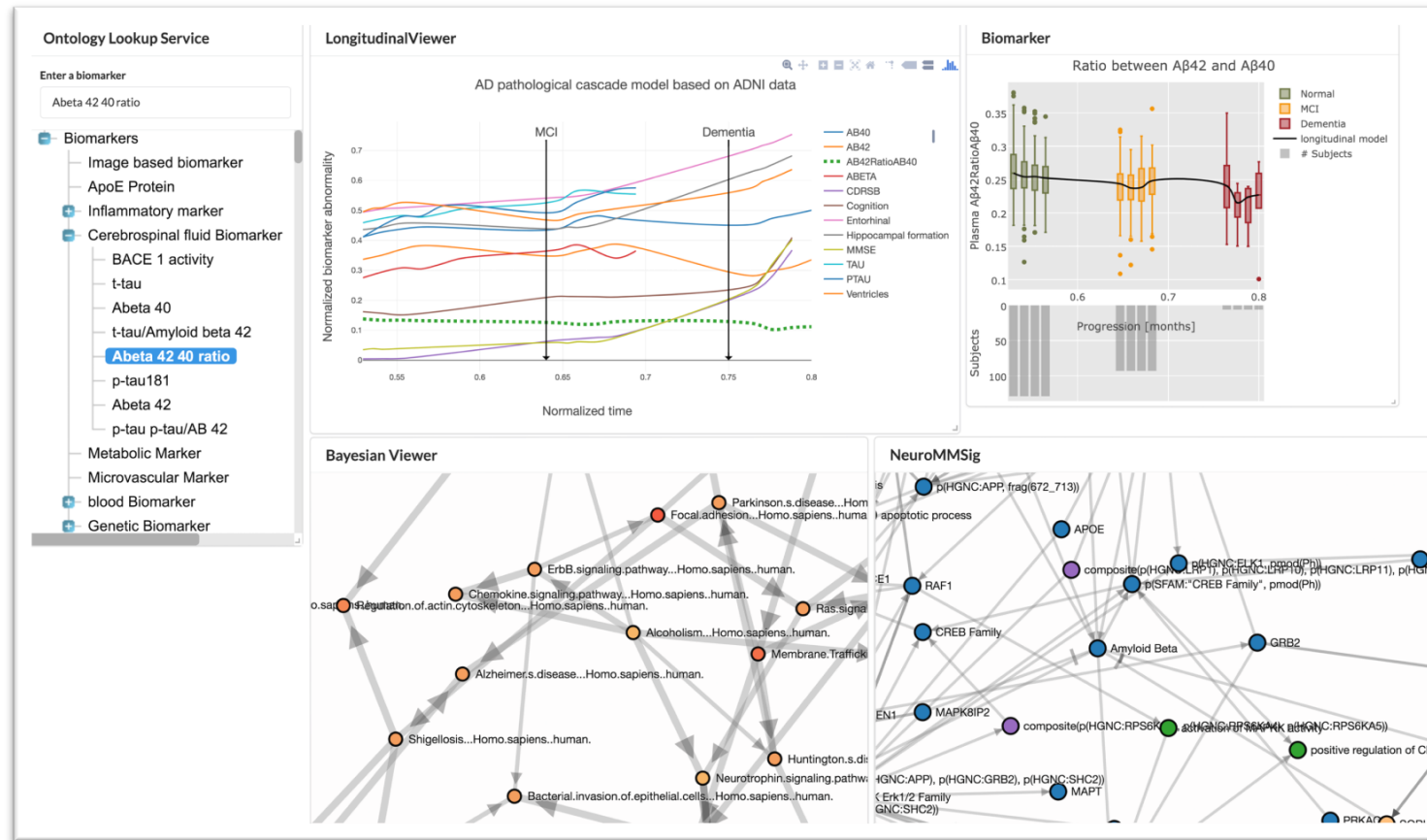
- ❖ User action in one facet triggers dynamic (reactive) updates in other facets



# Screenshots of Multi-facet Viewer Prototypes

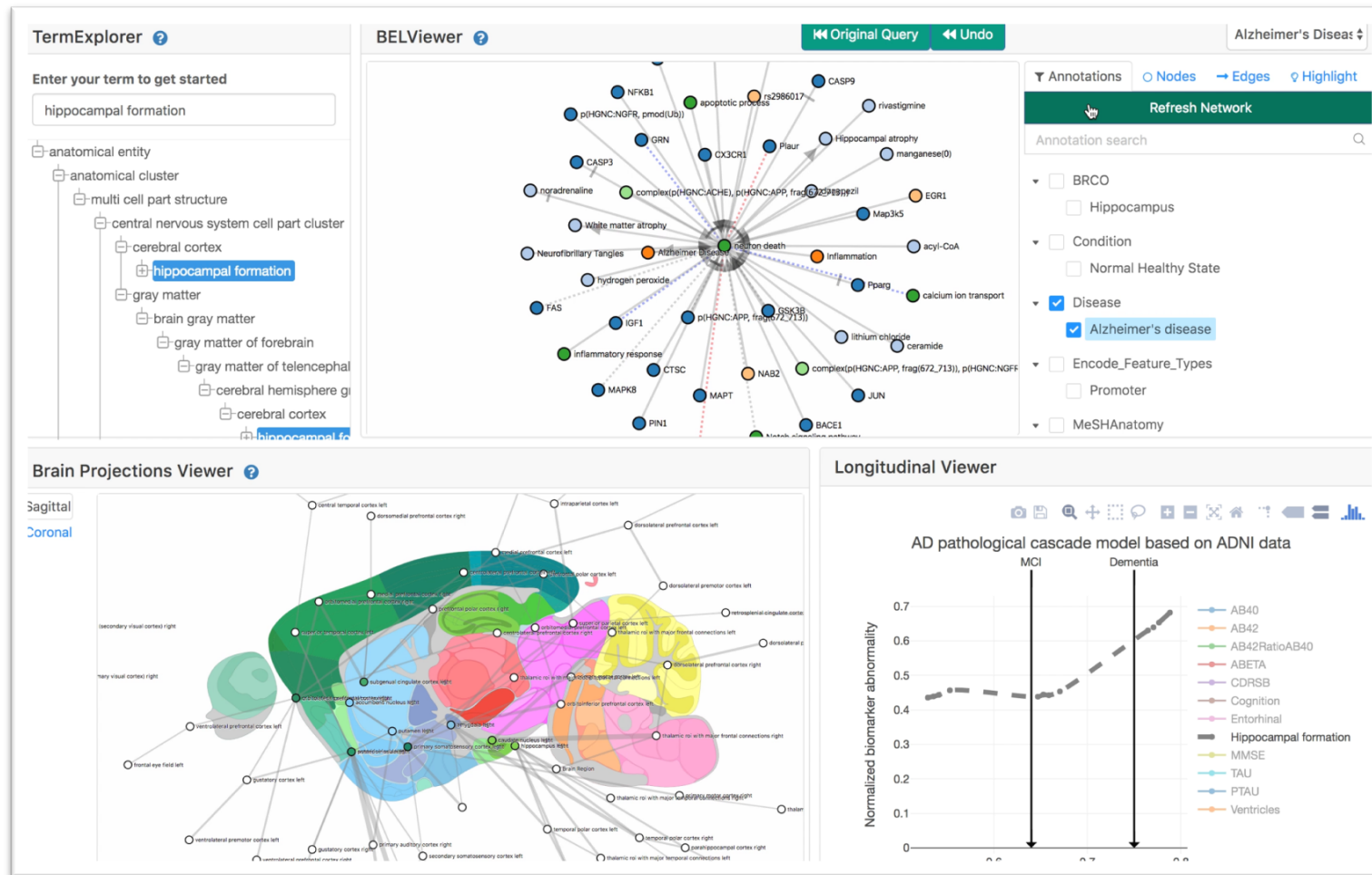


# Screenshot: NDD Mechanism-Centric Viewer



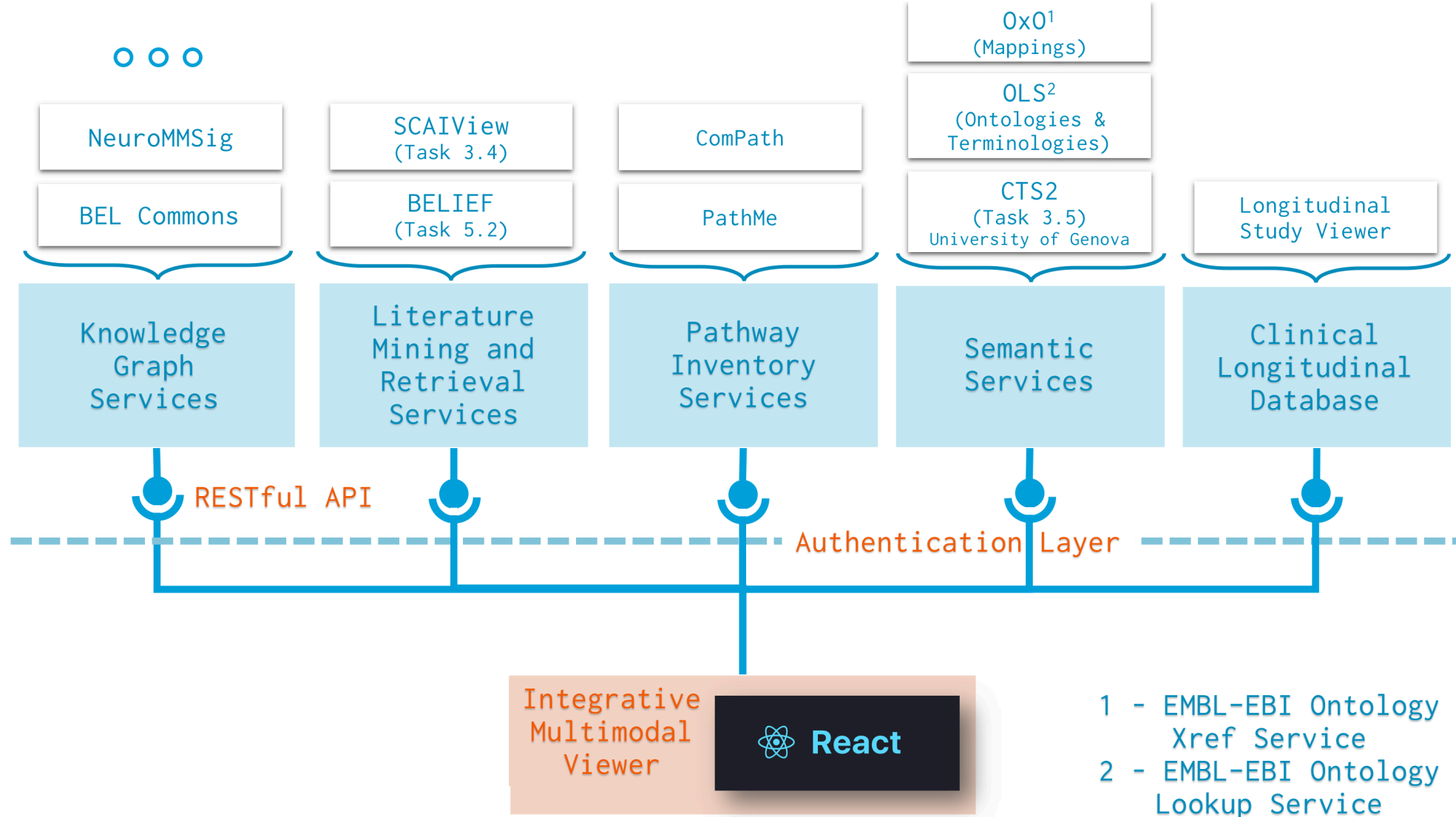
The following sources were used: Alzheimer's disease ontology (ADO), Alzheimer's Disease Neuroimaging Initiative (ADNI), NeuroMMSig

# Screenshot: Brain Region-Centric Viewer



The following sources were used: Uberon, NeuroMMSig, ADNI, Allen Mouse Brain Atlas

# Semantic and Knowledge Services



**Thank you for your attention!**  
**Any questions?**