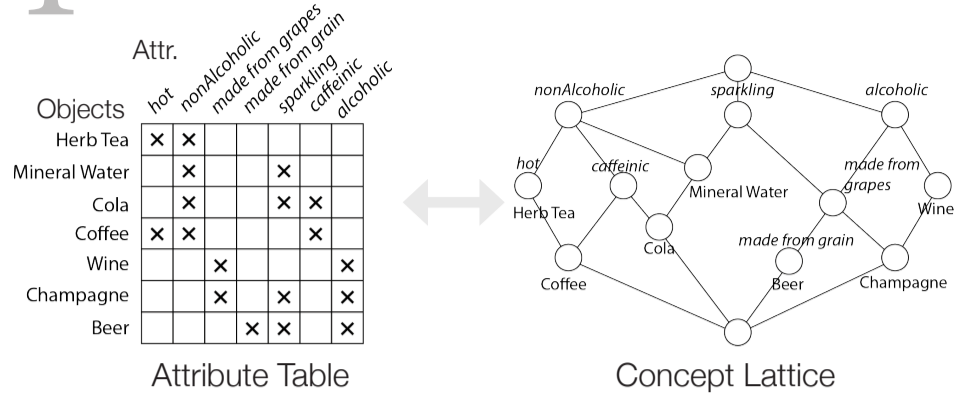


Facettice

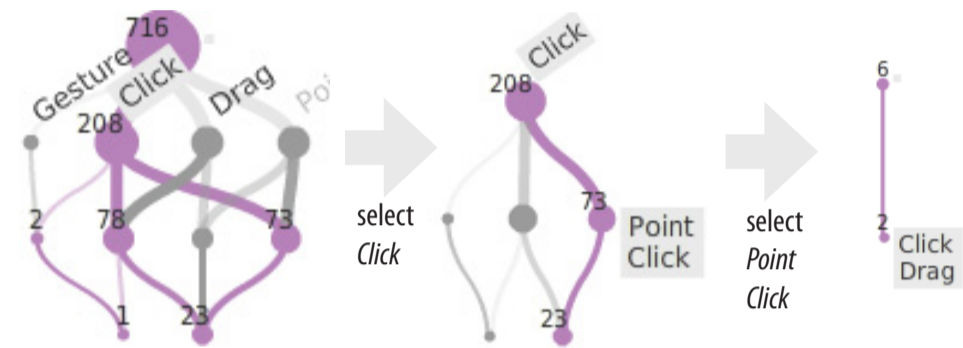
Integrating Faceted Navigation and Concept Lattices for Visual Data Exploration

We present a novel interface to faceted search and the exploration of search spaces by using interactive visualizations of concept lattices. Concept lattices are Hasse diagrams showing hierarchical sub-concept relations in multidimensional data and result from a preceding Formal Concept Analysis ¹. A concept lattice can be interpreted as navigation space of exactly all possible results of a search based on conjunctive queries between terms. With Facettice we describe the two complementary visualizations Facet Lattices ² and Big Smart Lattice and provide interaction to perform faceted search while visualizing and navigating ³ through the concept lattice space. The design of our two visualizations is based on three integration goals which describe how faceted search can benefit from concept lattice visualizations and vice versa ⁴. For demonstration we use visualizations classified under various facets and terms.

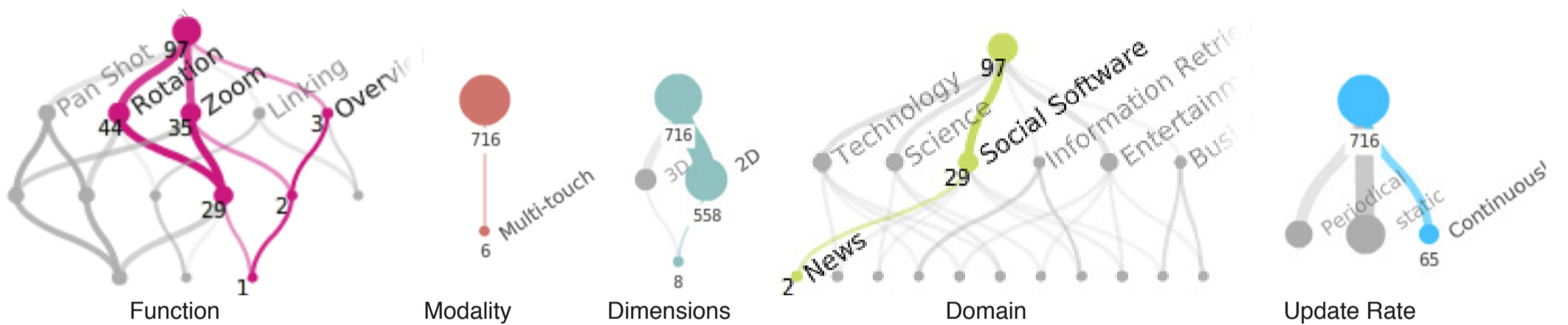
1 Formal Contexts and Concept Lattices



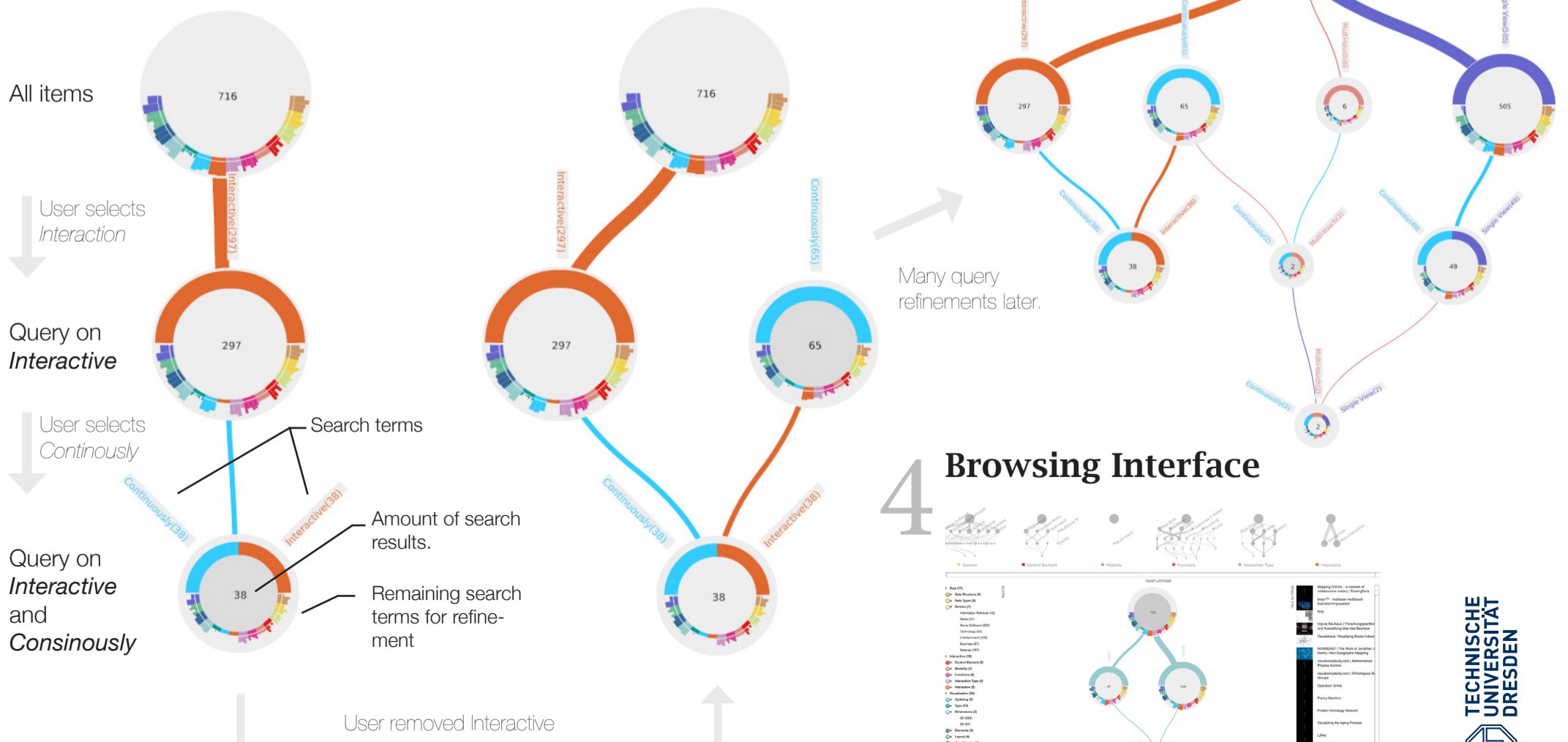
2 Facet Lattices



Facet Lattices present one concept lattice per facet. They are created by calculating the concept lattice over the whole data space, taking only the attributes of the corresponding facet into account. The top concept represents all elements classified under this facet. Lower concepts (sub concepts) show all existing value combinations. The visual strength of the relations indicates the proportion of similar objects between two concepts.



3 Big Smart Lattice (BSL)



4 Browsing Interface

