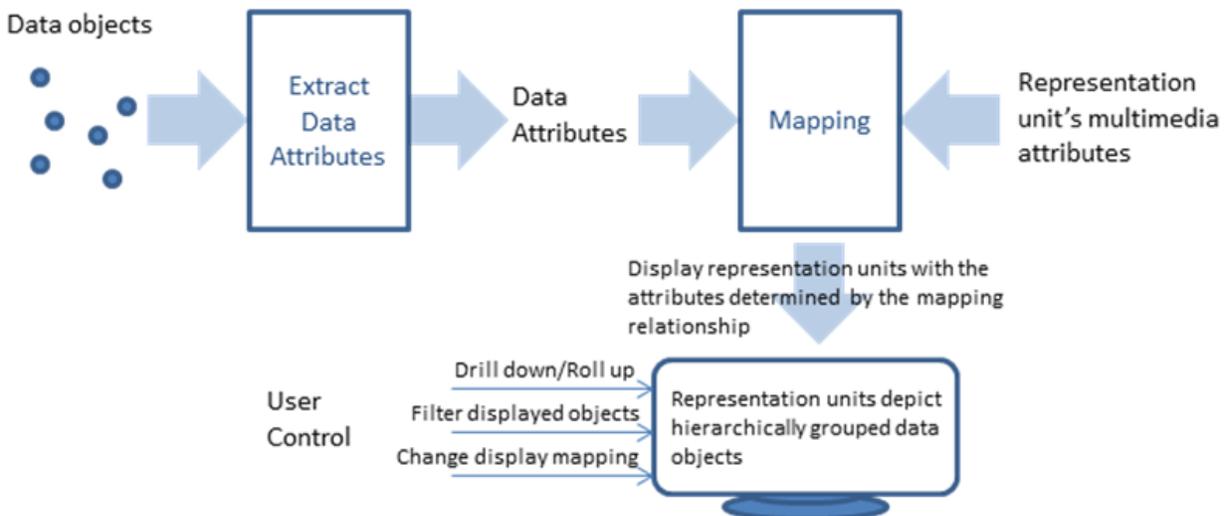


Presentation and Interaction Layer Technology for Search Engines



Search tools, like Google, can assist a user by returning a large number of search results with the corresponding detailed result attributes. Nevertheless, most current search engines only display a small number of results, each with a limited number of attributes, simultaneously. Because of the limited amount of displayed results and their attributes, it is not easy to get an overall or macroscopic sense out of the search results. Moreover, existing search tools only provide limited mean for users to interact with search results beyond a simple paging mechanism. Typically, visual properties used in presentation are so limited as to preclude the provision by a search tool of an immersive interaction by the users with search results.

We have developed a new presentation and interaction layer technology to address these limitations. The new technology enables users to intuitively, efficiently and comprehensively grasp the massive number of data objects (e.g., search results), their automatically extracted attributes and correlations among the data objects. Thus, the system empowers users to fully utilize the rich information available in the data objects. Our middle layer can be used for result visualization from search engines that search web pages or any kind of deep sources, with structured as well as semi- or un-structured content.



A block diagram for the process of generating hierarchically grouped data objects (such as search engine results) using multimedia attributes of representation units.

KEY ASPECTS OF THE TECHNOLOGY:

- Excellent information compactness: Our technology can be added to a search engine to efficiently utilize the presentation capability of display screens.
- Utilizes multimedia features such as color, texture, shape, size, animation, audio effect to represent different attributes associated with a search result to promote user insight.
- Enables powerful search result management tools such as “roll up”/”drill down” and “change mapping” functions.
- Structured organization of search results
- Superior support of implicit queries of exploratory or ambiguous nature.
- Technology backed by U.S. Patent No. 8,732,621 B2 and tested by usability study.

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