Study of Result Presentation and Interaction for Aggregated Search

Shanu Sushmita
School of Computing Science,
University of Glasgow
G12 8QQ, Scotland.
shanusushmita@gmail.com

Abstract

"Searching" on web has become an integral part of today's world, and many people rely on it when looking for information. The amount and the diversity of information available on the Web have also increased dramatically. Due to which, search engine companies are making constant efforts in order to make this information accessible to the people effectively. Not only there is an increase in the amount and diversity of information available online, users are now often seeking information on broader topics. Users seeking information on broad topics, gather information from various information sources (e.g., image, video, news, blog, etc). For such information requests, not only web results but results from different document genre and multimedia contents are also becoming relevant. For instance, users' looking for information on "Glasgow" might be interested in web results about Glasgow, Map of Glasgow, Images of Glasgow, News of Glasgow, and so on.

Aggregated search aims to provide access to this diverse information in a unified manner by aggregating results from different information sources on a single result page; hence making information gathering process easier for broad topics. This thesis aimed to explore aggregated search from the users perspective.

The thesis first and foremost focused on understanding and describing the phenomena related to the users' search process in the context of aggregated search. The goal was to participate in building theories and in understanding constraints, as well as providing insights into the interface design.

While the thematic (or topical) relevance of documents is important, this thesis argued that the "source type" (source-orientation) might also be an important dimension in the relevance space for investigating aggregated search. Therefore, relevance is multi-dimensional (topical and source-orientated) within the context of aggregated search. Results from the study suggested that the effect of the source-orientation was a significant factor in an aggregated search scenario, hence adding another dimension to the relevance space within the aggregated search scenario. The thesis further presented a method, which combines rule base and machine learning techniques to identify source-orientation behind a user query.

Furthermore, after analyzing log data from a search engine company and conducting user study experiments, several design issues that may arise with respect to the aggregated search interface were identified. In order to address these issues, suitable design guidelines that can be beneficial from the interface perspective were also suggested.

Overall, the thesis aimed to explore the emerging aggregated search from users' perspective, since it is a very important for front-end technologies. An additional goal was to provide empirical evidence regarding how aggregated search influence users searching behavior, and identified some of the key challenges in aggregated search.

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