

Proposal of an exchange in the context of the PROMISE project: Visual comparison of Ranked Result Cumulated Gains

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The visit is planned for March 14–16, 2011.

The purpose of the visit is the investigation of methodologies for the visual analysis of ranked result lists when cumulated gains are adopted to measure effectiveness.

The investigation of innovative methodologies and tools to support the analysis of results in Information Retrieval (IR) is a crucial issue because of the overwhelming amount of data made available by the evaluation campaigns and since the outcome of these analyses can be used for feeding the scientific production and the design and development of new approaches. Following the proposal reported in [1], the work that will be carried out during the visit will be focused on creation and transfer of knowledge obtained from the analysis of scientific data.

This activity will be carried out in the context of the PROMISE¹ network of excellence, specifically in WP3 (*Evaluation Infrastructure*), WP4 (*Evaluation Metrics and Methodologies*), and WP5 (*collaboration and knowledge sharing*).

The specific objective of the activity is to provide a new evaluation methodology and a tool to support the user when investigating the system capability of ranking highly relevant results at topmost rank positions. In particular, the objectives of the activity are:

- further investigation of the R_Pos function originally proposed in [2]
- integration of a component to analyze TREC data through standard tool for DCG computation
- analysis of data obtained from past TREC evaluation campaigns

The goal of the tool is to support a *content consumer* not only in identifying possible system failures on the basis of the overall ranked list effectiveness measured by cumulated gain-based measures, but also in failure analysis on a per document basis. Indeed, the proposed tool aims at providing an intuitive graphical representation of documents misplaced with respect to the optimal ranking.

References

- [1] N. Ferro, A. Hanbury, Henning Muller, and G. Santucci. Harnessing the Scientific Data Produced by the Experimental Evaluation of Search Engines and Information Access Systems. *Executable Paper Grand Challenge*, 2011.
- [2] N. Ferro, A. Sabetta, G. Santucci, G. Tino, and F. Veltri. Visual Comparison of Ranked Result Cumulated Gains. Submitted to the *International Workshop on Visual Analytics*, 2011.

¹<http://www.promise-noe.eu>