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AIR 2008
Second International Workshop on Adaptive Information Retrieval

Hideo Joho, Frank Hopfgartner, Joemon M. Jose, and C. J. van Rijsbergen

Department of Computing Science, University of Glasgow.
Sir Alwyn Williams Building, Lilybank Gardens, Glasgow G12 8QQ.
{hideo,hopfgarf,jj,keith}@dcs.gla.ac.uk

http://www.dcs.gla.ac.uk/workshops/air2008/

Abstract

This report describes AIR 2008, the second international workshop on Adaptive Information Retrieval (AIR), held in October 2008 at London, UK. The workshop attracted over 30 participants across the world and the largest workshop held in conjunction with IIiX 2008. The presentation ranged widely from theories to practices on Adaptive Information Retrieval. The workshop consisted of two keynote presentations, three oral presentations, breakout sessions, and poster session.

1 Introduction

Information retrieval is a challenging process. Increasingly information is sought from collections with multiple media and genres using multiple modalities and languages. A number of factors affect the retrieval process such as query formulation, matching process and result presentation. However, the importance of context in the retrieval process has been identified. Adaptive retrieval, a process in which the search process is adapted towards the user needs/context, has become more and more important. The second international workshop was held to address these ongoing issues. While the evaluation methodologies were the dominant issue in the first AIR workshop [1], AIR 2008 covered a wider range of topics including theories to practical applications. The workshop consisted of two keynote presentations, three oral presentations, breakout sessions, and poster sessions.

2 Keynote presentations

David Harper (Google, Switzerland) gave the first keynote talk. The talk discussed a number of approaches taken by search engines to diversify the search result presentation and query

reformulation methods so that the search engine can adapt to a wide range of users. David emphasised that there are great opportunities for adapting specific user groups since there is not such a person like a typical web user and they are distinguishable by different axes (locations, languages, educations, task).

The second keynote talk was given by Norbert Fuhr (University of Duisburg-Essen, Germany). Fuhr presented his work on Probability Ranking Principle (PRP) for Interactive Information Retrieval (IIR). He first pointed out the lack of theoretical foundation for the design of IIR systems. The IIR PRP model considers an entire interaction, costs and dynamic needs. He then illustrated how the probability of selection, effort, success and benefit play their role in the model.

3 Oral presentations

Eckstein and Henrich (University of Bamberg, Germany) presented a graphical interface that allowed to vary the degree of relevance of different contextual factors to select documents in a workplace. The design of the interface was motivated by the workflow of mechanical engineers where a range of document genres was used.

Springmann and Schuldt (University of Basel, Switzerland) presented a contextual image retrieval system. The system was designed to work with a pen equipped with a camera which can recognise a certain set of shapes on the paper. The pen also allowed people to sketch an object as a query. When people select a blob in a retrieved image, the part can be isolated for relevance feedback.

Klas, et al. (University of Hagen and University of Duisburg-Essen, Germany) discussed a framework for adaptive systems. They showed a broad view of adaptive systems in multiple levels such as adaptive system services, adaptive content services, adaptive user services. The proposed framework was designed to unify the tools available to achieve adaptation in academic workflow.

4 Breakout sessions

Participants were split into groups and discussed important issues facing the development of adaptive information retrieval. Three topics were discussed in these breakout sessions: Adaptive interfaces and systems, evaluation of adaptive systems, and Models/Theories of adaptive IR.

5 Poster sessions

Ten posters were presented during the lunch time. The topics presented by the posters were diverse including interactive web TV, digital government, and cross-media indexing.

6 Conclusions

We reported a successful workshop on adaptive IR held in London in October 2008. The highlights of the workshop were as follows. The breakout sessions identified the need for new

evaluation paradigms for adaptive IR systems and especially the need for interactive test collections. It also discussed the need for new evaluation measures as well. It also identified the difficulty in building theoretical models in AIR and suggested to address this problem in a bottom-up approach. The integration of different components and building a truly adaptive system were identified as a challenge of interface and system design in AIR. Slides and notes of the presentations and discussions are available from the website of the workshop.

There was a consensus that it was important to continue to have a forum with a similar scope. Subsequently, one of the organisers of AIR 2008 will be involved in the organisation of two workshops: Workshop on Contextual Information Access, Seeking and Retrieval Evaluation at ECIR 2009, and Understanding the user - Logging and interpreting user interactions in information search and retrieval at SIGIR 2009.

7 Acknolwedgements

References

[1] H. Joho, J. M. Jose, and C. J. van Rijsbergen. Air: First international workshop on adaptive information retrieval. *SIGIR Forum*, 42(1):63–66, 2008.