Information Retrieval and User-Centric Recommender System Evaluation

ERCIM research project at CWI
Focused on novel aspects of recommender systems evaluation from an information retrieval and a user-centric perspective.

Duration and personnel
- January 2013 – March 2014
- 24 person months
- 2 postdocs

User-centric Evaluation
A personalized offline evaluation protocol mimicking real-life deployed recommender systems.
- Each algorithm is trained once per user based on a personalized training and test split.
- Candidate test items are selected based on a personal rating value threshold (e.g., mean).

Diversity-oriented evaluation methods focusing on:
- non-accuracy-based evaluation metrics
- item feature-centric evaluation
- novelty

IR-based Evaluation
A coherence-based function that is able to predict the user performance
- Correlated with the “magic barrier”
- Improves the total performance of the system when used to group users into difficult and easy ones

Explore correlations between metrics typically used in offline experiments (precision) and in real applications (e.g., CTR).

Perform an analysis of how evaluation in recommendation should be performed to obtain interpretable and comparable results.

Related Events
Workshop on Reproducibility and Replication in Recommender Systems Evaluation. In conjunction with RecSys 2013
Workshop on Benchmarking Adaptive Retrieval and Recommender Systems. In conjunction with SIGIR 2013
ACM TIST Special Issue on Recommender System Benchmarking

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Further Reading
Artist popularity: do web and social music services agree?
A. Bellogín et al. In ICWSM 2013

User-Centric Evaluation of a K-Furthest Neighbor Collaborative Filtering Recommender Algorithm
A. Said et al. in CSCW 2013

Poster Abstract
Information Retrieval and User-Centric Recommender System Evaluation
A. Said, A. Bellogín et al. in UMAP 2013