Michael D. Ekstrand, Daniel Kluver, F. Maxwell Harper, and Joseph A. Konstan

Letting Users Choose Recommender Algorithms: An Experimental Study

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HOW TO IMPROVE RECOMMENDER

Adjust recommender based on user feedback (implicit or explicit).

Make multiple recommenders that can satisfy more users.

HOW TO IMPROVE RECOMMENDER #2

Make multiple recommenders that can satisfy more users.

BUT

Will you combine them?
Or choose the best? How?

MULTIPLE RECOMMENDERS

Use hybrid recommender

weighted, meta-level, … [Burke, 2002]

or

involve users in the process of selecting their recommender

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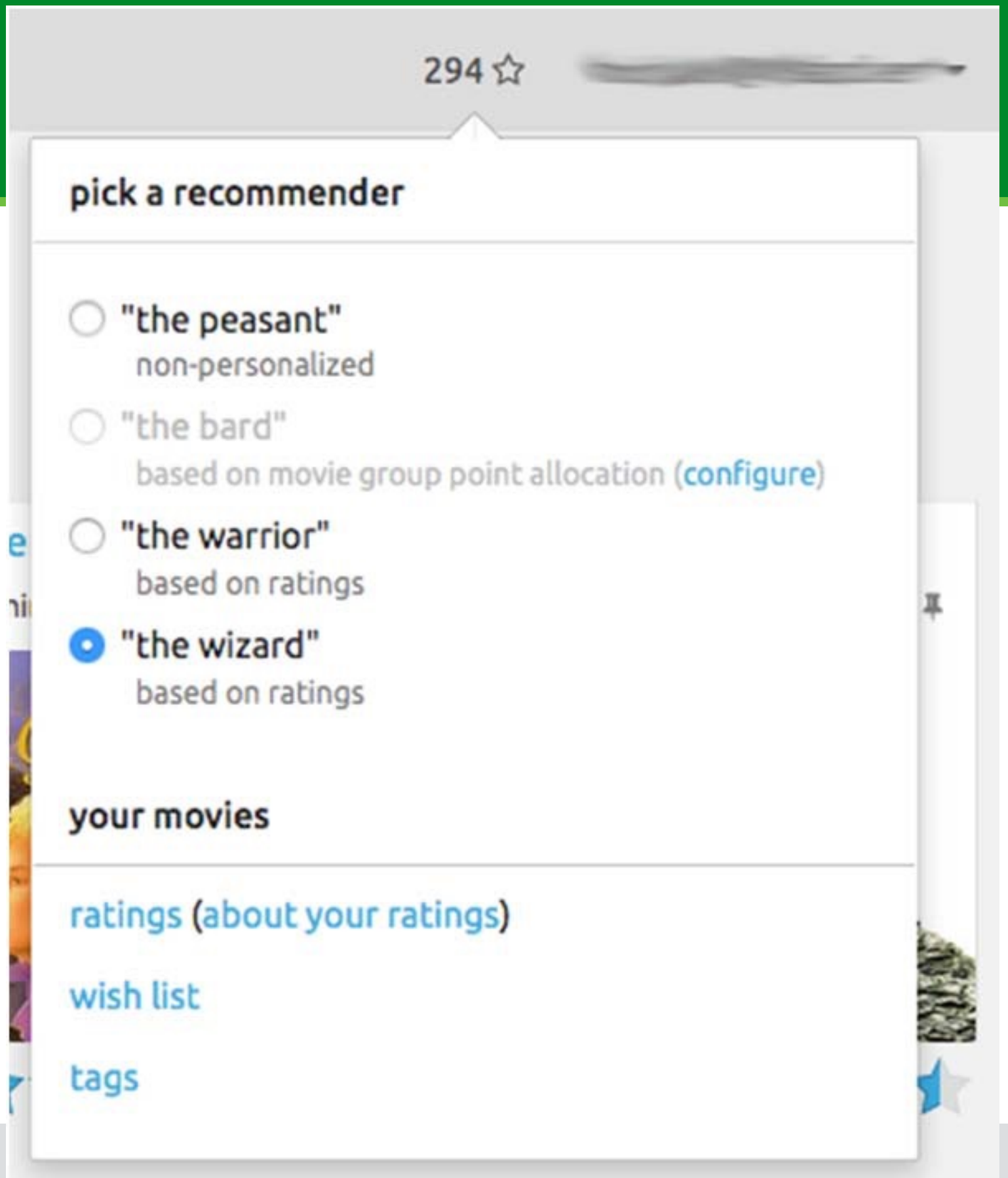
EXPERIMENT

Users were randomly assigned to one of the recommenders.

Then they have an ability to switch to **another** recommender.



AVAILABLE RECOMMENDERS

Baseline - user-item mean (non-personalized)

Pick Groups - item-item collaborative filter that uses synthetic item ratings derived from the user's choice of different movie groups

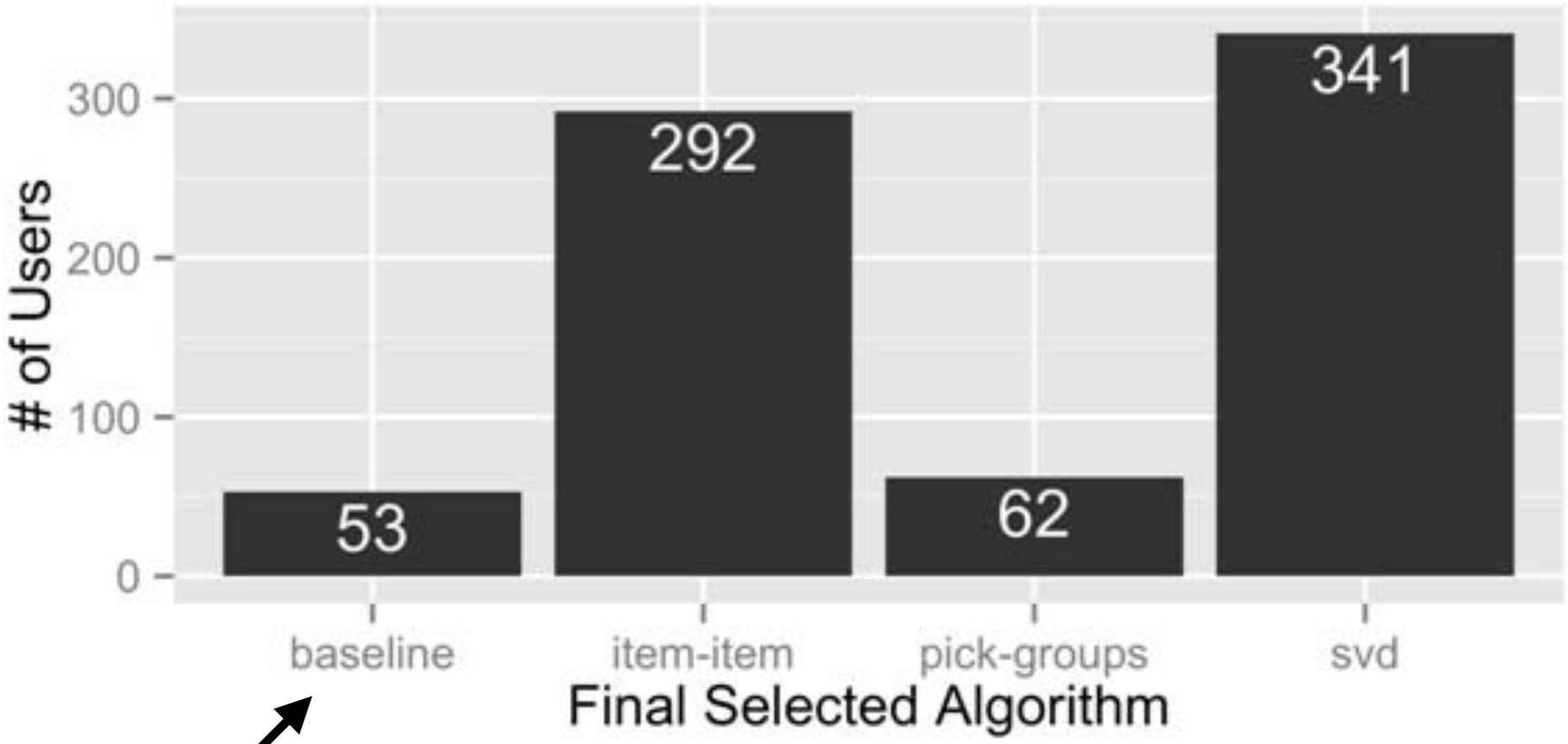
Item-item - item-item collaborative filterring

SVD - matrix factorisation recommender (FunkSVD algorithm)

RESEARCH QUESTIONS

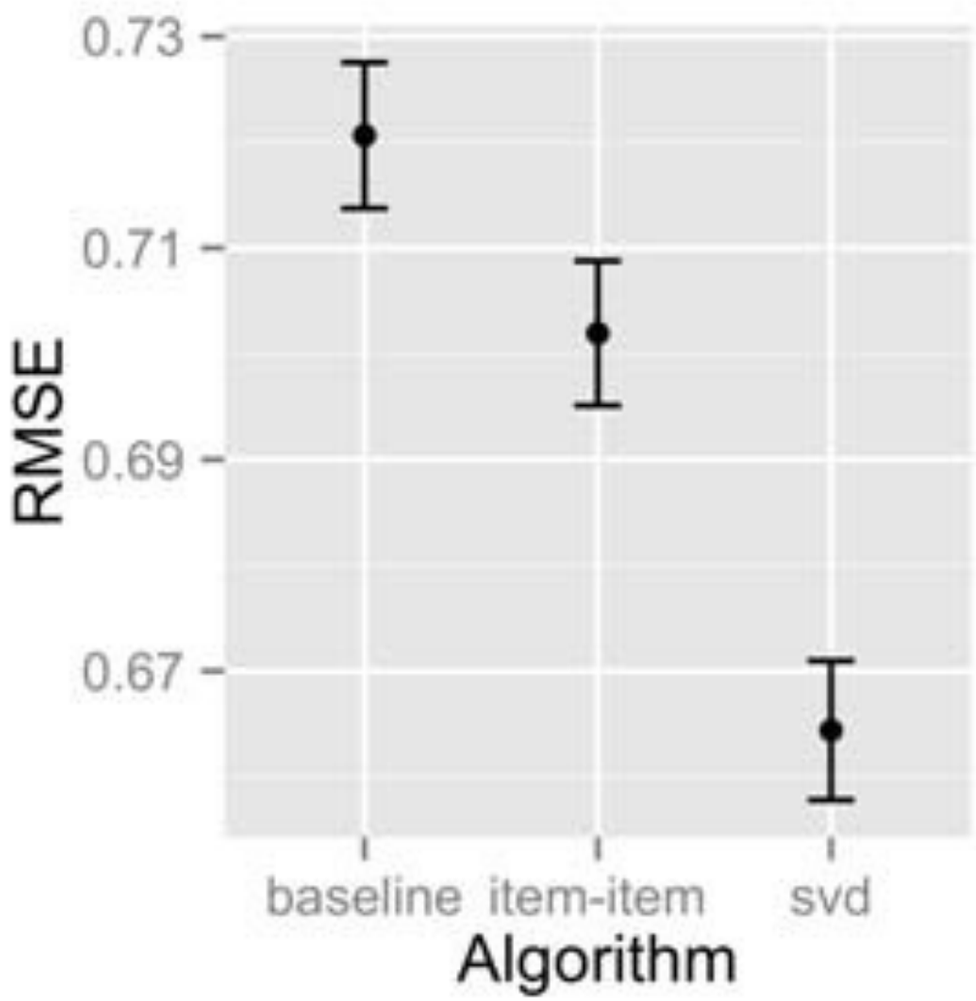
- switching behaviour
- algorithm preference
- recommendation accuracy
- predicting user behaviour
- retention

FINAL CHOICE OF SWITCHING

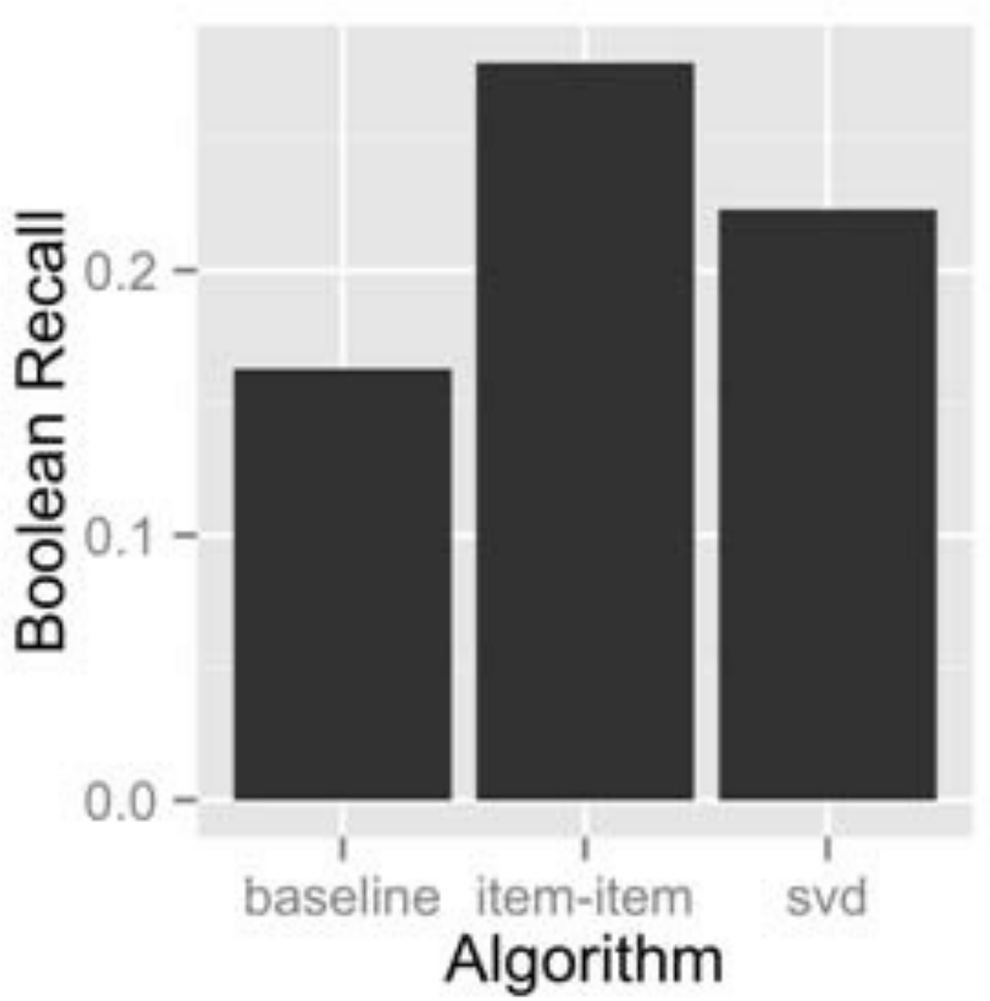


non-personalized

EVALUATION

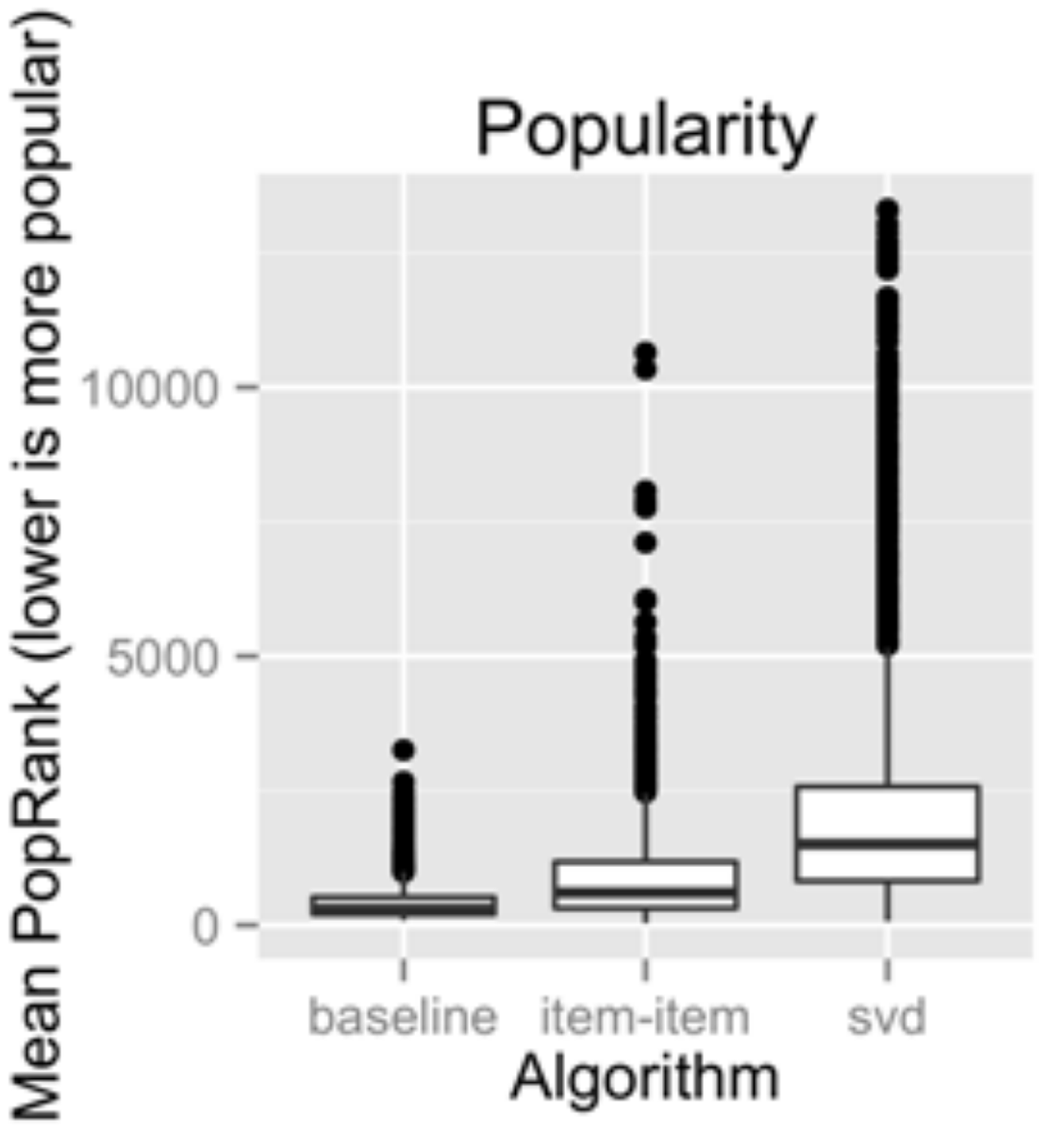


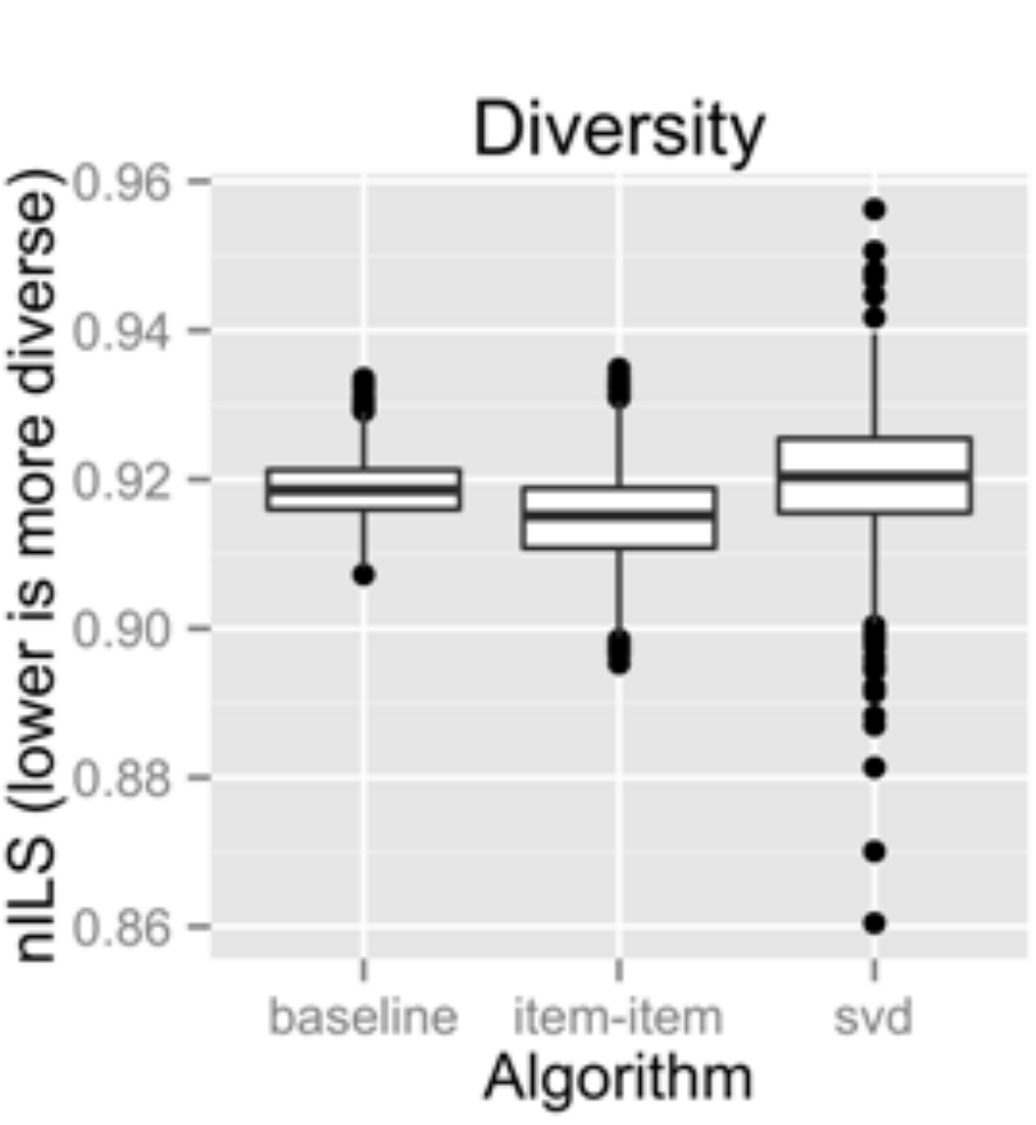
RMSE = Root Mean Squared Error



Boolean Recall
= recommender returned at least 1 correct movie

POPULARITY VS. DIVERSITY





POPULARITY VS. DIVERSITY #2

They found that for users starting with the *baseline algorithm*, increased **diversity** in the list of recommendations **increased the likelihood** that they would **try another algorithm**.

Popularity or novelty may play a larger role in user preference than diversity.

CONCLUSION

Users who make use of the recommender switching control were more likely to come back to the site.

DISCUSSION

How to choose **the right** recommender? Is accuracy enough?

Should we let **the user** make this decision?

Users were able to try out recommender only by selecting it and switching back. Could you *recommend* some better solution?

SOURCES

(1) Michael D. Ekstrand, Daniel Kluver, F. Maxwell Harper, and Joseph A. Konstan. 2015. Letting Users Choose Recommender Algorithms: An Experimental Study. In Proceedings of the 9th ACM Conference on Recommender Systems (RecSys '15). ACM, New York, NY, USA, 11-18. DOI=http://dx.doi.org/10.1145/2792838.2800195