Using Recommender Systems to Enhance User Experience in News Applications

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Abstract

Recommender systems are used in different scenarios to help users find items that they would potentially be interested in quickly. These items are recommended based on users' interests and their past behaviour on a system.

This research aimed to apply principals related to recommender systems in a smartphone news application. In this scenario, users are given recommendations based on their interests and reading patterns. Furthermore, the created prototype also aimed to address problems that recommender systems face. Primarily this research sought to solve 'The New User Problem' as well as make sure that news recommendations were given based on each user's profile.

'The New User Problem' was tackled by accessing users' Facebook likes to help the system learn about a particular user's interests. Furthermore, recommendations were possible with the use of the Term Frequency-Inverse Document Frequency (TF-IDF) measure. The TF-IDF measure was used to rank the most relevant words in every news item. Furthermore, the same scores were used to rank words in every user profile.

The application was given to seven test users to test for four days. After the test period, interviews were carried out to verify whether the chosen algorithm and scoring methods were justified. Additionally, analysis of the database was also conducted to further prove whether the system was working as desired.

From the results of this research it was concluded that the implemented solution to address 'The New User Problem' did offer a rough estimate of what each user's interests were. Recommendations also did reflect users' interests as well as their reading patterns. The implemented algorithm did a good job of ranking the most relevant words in every news item, however the scoring methods chosen proved to work well with liked news items but did not penalise disliked news items as one would have hoped for. Lastly, sometimes unrelated news items were recommended albeit they ranked low in the list of recommended news items.

The conducted research should help highlight the potential merging of social networks with recommendation systems to solve 'The New User Problem' as well as learn more about a user quickly. This could be the basis of having more accurate systems that are user-centric and more personalised.