

# Group Recommendation of Multimedia Content

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In our times it is very important that web pages or applications, not only store information, but it is also needed that the page or application could communicate with the user in certain ways. Because of the growth of the world wild web the amount of information which is stored in online space has increased. To solve the problem of this information burst, recommendation technics and methods were invented, but as the world changes, the access to the internet also changed. People collaborate more often with each other. In times where the most visited pages in the world are social network pages the recommendation technics have to adept these new trends. Which is mainly collaboration between users. The answer to this need is group recommendation.

To create accurate recommendations we need data that describe the users interest and taste in the given domain. As we said earlier nowadays the most information about users are stored in social networks applications. Therefore we are proposing method that will extract information from the users threw social networks for recommendation generation. Social networks offer a great opportunity for user information extraction. People willingly provide information about their taste and interest. Usually in social networks applications we have two types of data, structured and unstructured data [1]. Both data types can be useful but in case of using unstructured data we need to pre process it. We need to extract knowledge from the data. After the data extraction we have at our hands the needed amount of information about the user that we can use to create an accurate recommendation.

The main problem in group recommendation is that the generated recommendation has to satisfy all the members in the given group. The seed of the problem comes from heterogeneity of the groups. Users have different tastes and interests. To solve this problem we are also proposing aggregation strategies for the collected data from the users. These aggregation strategies will be able to determine the common interest and taste of the group. There are several known approaches the most common is to create a virtual user for which the recommendation should be generated [2]. But there are other approaches like generating recommendation for each user and

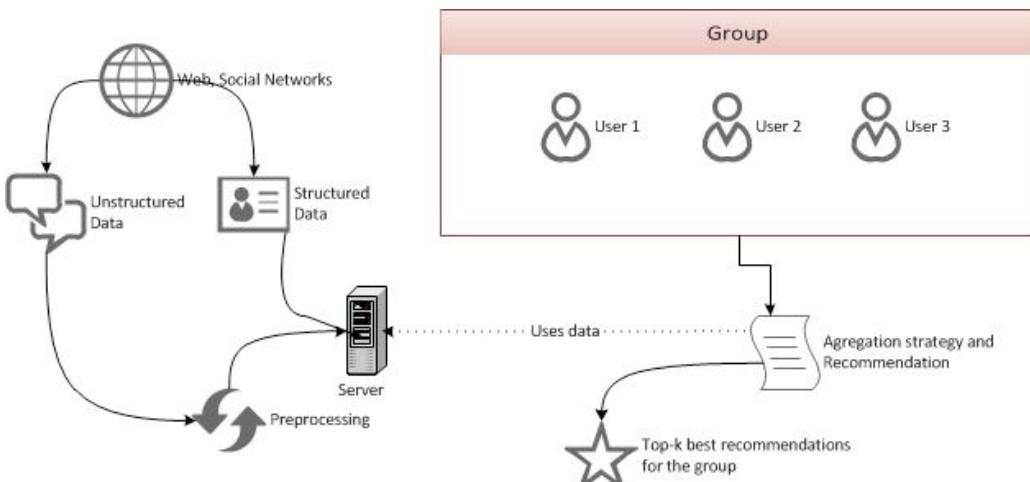
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filtering the result by some group descriptors that describe the group [2]. In picture 1 there is the scheme of the proposed recommendation method.

The last step for the formula will be creating a recommendation technic for the domain where the proposed methods will be tested. Because before we can recommend anything to groups we need to be able to recommend to individuals first. The proposed recommendation method will use graph algorithms to predict the recommended content for the user. The domain where the experiment will take place is recommendation of multimedia content, more exactly recommendation of movies.

The functionality will be integrated into the application Televido, which is an application that is able to generate personalized movie recommendations. Televido is available as web and mobile application so for the mobile we can integrated even the context for the recommendation. Televido uses graph databases and algorithms for its core functions. The proposed method will be tested on the Televido user base.



Picture 1. Scheme of the group recommendation method

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## References

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- [2] Gartrell, M., Xing, X., Lv, Q., Beach, A., Han, R., Mishra, S., & Seada, K. (2010). Enhancing group recommendation by incorporating social relationship interactions. *Proceedings of the 16th ACM international conference on Supporting group work - GROUP '10*, 97. doi:10.1145/1880071.1880087