

Cloud-Based Mobile Multimedia Recommendation System With User Behavior Information

Abstract:

Facing massive multimedia services and contents in the Internet, mobile users usually waste a lot of time to obtain their interests. Therefore, various context-aware recommendation systems have been proposed. Most of those proposed systems deploy a large number of context collectors at terminals and access networks. However, the context collecting and exchanging result in heavy network overhead, and the context processing consumes huge computation. In this paper, a cloud-based mobile multimedia recommendation system which can reduce network overhead and speed up the recommendation process is proposed. The users are classified into several groups according to their context types and values. With the accurate classification rules, the context details are not necessary to compute, and the huge network overhead is reduced. Moreover, user contexts, user relationships, and user profiles are collected from video-sharing websites to generate multimedia recommendation rules based on the Hadoop platform. When a new user request arrives, the rules will be extended and optimized to make real-time recommendation. The results show that the proposed approach can recommend desired services with high precision, high recall, and low response delay.