
Abstract

In recent years, the rapid growth of online social communities has led to a massive generation of user content. This user-generated content is required by the recommender systems to identify the interests of users without disclosing information to other parties participating in the system. Content-Based filtering (CBF) is one approach to identify the interests of users and recommend content that users have liked. In the process of content recommendation by recommender systems, users personal information may be exposed to potential privacy threats. To protect users privacy, a user group-based privacy-preserving recommender system is proposed, which is based on Elliptic curve cryptography system and Shamir's secret sharing scheme. In this system model, recommender server models users interests by determining interest similarities among users followed by association rule mining approach to generate content recommendations in a privacy-preserving fashion. We evaluate the proposed system model on publicly available datasets to measure performance and recommendation accuracy along with privacy-preserving theorems, which prove proposed system can protect users privacy.