Abstract

The Automated Collaborative Filtering technique [1] has been successfully applied to Information Filtering and Recommendation domains, in web sites like Amazon [2] and iTunes [3]. Dellarocas proposes in [4] their use on reputation domains to provide more reliable and personalized reputation predictions. Despite being solved by researches of the recommendation field (through significance weighting [5]), the problem of selecting low-trusted (or false good/bad) neighborhoods finds new roots in the reputation domain, mostly related to the changing behaviour of the entities being evaluated. The changing behaviour can turn evaluators with similar tastes into distant ones, and evaluators with very distinct tastes into close neighbours, contributing to poor reputation estimates.

This work presents a method based on collaborative filtering to minimize those problems, with the following improvements: 1) information of raters' taste profiles are also used by the reputation prediction functions and added to the maintained user evaluation history; 2) execution of neighbourhood adjustments and transformations on the user evaluation history based on the similarities between the taste profiles of the active user and other evaluators.

Experiments are deployed through a simulated electronic market-place where buyers select sellers based on the reputation predictions generated by the proposed method and other correlated methods. The main goal of the experiment is to simulate the changing behaviour of sellers, and to compare in such environment the performance of the proposed method against other approaches that use collaborative filtering, through the analyses of data generated by the simulation.