Adaptation of Asymptotic Trust Algorithm
Reputation on Internet Forums

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Abstract. Internet is a great medium that allows us to share knowledge with people from all over the world. On the other hand, information from the internet is unreliable because one cannot tell whether it was provided by an expert or a novice. In many cases it does not matter because everybody has the right to his/her opinion about for example a video clip. However there are situations when the credibility of the information is vitally important. Often one wants to find a solution to an important problem, therefore she/he needs some method to ignore jokes, spam and wrong answers by unexperienced users and consider only credible answers. We have designed Asymptotic Trust Algorithm (ATA) to manage users’ reputation in customer-to-customer environment like auction sites. In this paper we present an adaptation of ATA which allows to managed reputation of users of internet forums. We believe that our method will be useful for every internet forum which cares about reliability.

Keywords: reputation system, trust management method, internet forums.

1 Introduction

There are many internet forums where reliability of users is vital. In this paper we will refer to forums for software developers as an example but our algorithm may be applied as well to any kind of forums where people ask and answer questions (for example answers.yahoo.com\cite{13}, wiki.answers.com\cite{17} or allexperts.com\cite{14}). In case of forums for software developers like
it is very important to know if proposed solution will solve one’s problem or make her/him waste time.

Especially when the subject of the forum is important, users need a way to ignore information written by spammers or so called “trolls” (users who post silly information to make a joke or to annoy others). Most of the internet forums do not use any reputation mechanisms or use very simple mechanisms based on a vote count. On the one hand internet users are used to simple clicking “like” or “dislike” (vote up or vote down) to assess forum posts. This way of giving feedbacks is probably most common in the internet. On the other hand simple sum or average of feedbacks is unsufficient in many ways. In this paper we present *Asymptotic Trust Algorithm (ATA)*, which is a method that exploits this modest feedbacks but still provides readers with a lot of information about writers and their posts. Information that may be useful to quickly and accurately assess users’ reputation and usefulness of posts. What is more, ATA allows to show the whole history of a user’s reputation on a single chart. One picture speaks a thousand words, so a chart with reputation history of a writer allows readers to see if the writers posts are getting better (she/he is getting more experienced and get more positive feedbacks) or reputation is falling (because same users may stop warring about feedbacks once they gained reputation). We also pay some consideration to different methods of drawing reputation history charts. We realised that showing reputation on a time scale allows readers to see how much time a writer needed to get her/his reputation and whether she/he was active recently or stops visiting the forum.

2 Related Work

Research shows that reputation systems are very important in most Web 2.0 multi-agent applications (to name just a few: [6, 2, 3, 10]). Many trust models and reputation systems have been proposed. HISTOS[12], SPORAS[12] and REGRET[8] are probably most cited. Another interesting trust models, that also give good results in predicting future users’ behaviour are FIRE[4], AFRAS[7] and RRM[13]. For more information about many types od reputation systems see [9].

These trust models provide good estimation of users’ reputation, unfortunately they are often difficult to introduce to existing portals. Moreover, users like the simplicity of voting up and down. Methods with a lot of parameters (like for example [11]) or sophisticated probabilistic methods (like The Beta Reputation System [1]) may confuse user, therefore internet sites’ owners are hesitant of introducing more sophisticated reputation management methods.

Our intention is to build a trust model which is easy to comprehend for users and keeps the simple interaction method (voting for post up or down) just like we build a trust model for online auction sites which extend but not replace eBay’s reputation system [5].