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Algorithm For Trustworthiness In E-Commerce Services

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Abstract: *Due to new technologies emerging in order to detect fraud and ill feedbacks and scores in online services, Trust Reputation Systems (TRS) provides robust support to parties who need to take the right decision in any e-commerce or electronic transaction. TRS has to trustfully calculate the most trustworthy score for a particular product or service. In fact, based on demonstrations, TRS gives the most trustworthy and calculates the most reputed results in the implement system. Thus, TRS must rely on a strong, reliable architecture and suitable algorithms that are able to select, save, generate and classify scores and feedbacks. In this work, our team is proposing a new architecture for TRS in e-commerce application which includes feedbacks' analysis in its treatment of scores. In this, it compares the given results with the prefabricated statements and results that already exists. As a conclusion of this study, the reputation algorithm generated genuine trust degree of the user, trust degree of the feedback and overall better reputation score of the product or service.*

Keywords - *Analysis, Decision making, E-commerce, Rating, Textual feedbacks, Trust reputation.*

I. Introduction

Trust is a noteworthy factor in any social relationships and in particular in e-commerce transactions. In traditional e- commerce, a buyer can often see both the seller and the product, verify the quality of the product and also could negotiate and bargain with the seller, thus it is possible for each of them to check the trustworthiness of the other and for the buyer to be convinced about the service of the products. Although many technologies, like cryptography, electronic signatures, and certificates, assist the user in order to make the transaction in a more secure way. They remain insufficient to build a helpful and trustful reputation about the product or the service [3]. As a result, users are not able to conceive reputation for the product without any additional assistance. In such situations, Trust Reputation Systems [TRS] takes charge so as to escalate trustworthiness among a group of participants according to transaction factors. In fact, e-commerce users prefer to focus on users' views and opinions about a certain product. Users believe that all of them have a similar interest which is to know about the trustworthiness of the product or services. Therefore feedbacks, scores, and any other information are very helpful and need to be trustful because many other e-commerce transactions will be built on them.

Our approach focuses on an algorithm that includes, semantic feedback analysis in order to generate the most trustful reputation score for a product since feedback affect users' decisions more than numeric scores [2].

The remainder of this paper is structured as follows. In section 2, remind the terminology of trust and reputation systems. Section 3 presents work related to the same. The architecture and the algorithm related to our TRS are detailed in section 4 [3]. At last, the system comes up with some, conclusion and remarks and an outlook on the future of e- commerce.

II. System Analysis

a. Present System

Nowadays, everyone gets everything online be it a small thing like a needle or be it a car. To buy any product people always try to check if the product is good or not, to check its reliability common people take help of the ratings and reviews regarding the product [4]. Many a time it happens that people fall prey to fake sellers who post reviews and ratings which are false.

b. Proposed System

Here, propose a system where in which our team is developing a trust reputation system through which one will be able to detect if the rating and review of the product are genuine or not. It will create a profile of each user in which the trust level will be given to the user, based on his reviews given. The user after registration and login, views or buys and gives textual feedback as shown in Fig 1. The system develops the trust score based on that review and also compares it with the prefabricated feedbacks.

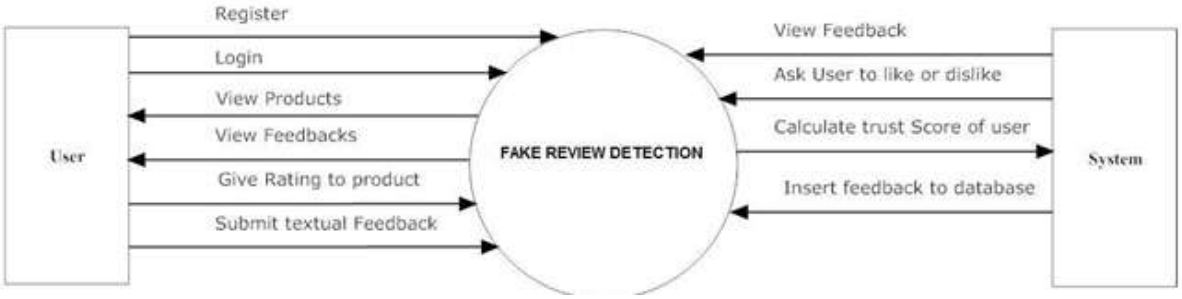

Fig. 1: Data Flow Diagram

The system will use text mining and sentiment analysis to determine the score of users. If the user's trust score is not good, then the reviews written by him/her will not be published on the website.

III. Methodology

- After a user buys a product he can give a review of the product.
- After giving the review, the user is redirected to another page where he/she needs to give feedback on certain prefabricated reviews.
- Through this, the system can detect and eliminate any malicious programming attack on our system.
- It generates a degree of trust for the user by using the Trust Reputation System.
- The degree of Trust Reputation System is between -5 to 5.
- The reviews whose degree of trust is above 3 are only published on the product.

IV. Design

The user starts by giving reviews on the products bought by him/her. When he/she clicks on submit to check whether the information provided by the user is correct or not, it will redirect the user to another interface where the following message is shown for example: "please give us your opinion about the following feedbacks before validating the information you gave". In fact, in this interface, the system will find chosen feedbacks from the database from different types. Those feedbacks can be fabricated in order to summarize numerous users' feedbacks stored in the database. The generated feedbacks can be stored in another knowledge base. So as much as we add feedbacks in the ordinary database, the site owner will fill the knowledge base with prefabricated feedbacks using text mining algorithms and tools [1,2]. Before sending the users to feedback about the product to the trust reputation system, it must verify the comparison between them in order to avoid and eliminate contradiction or malicious program attacking our system.

In fact, through this redirection to detect and analyze the user intention behind his intervention on the e-commerce application. Hence, the system can examine and evaluate his intention of using other pre-fabricated feedbacks with different types.

V. Conclusion

In this project, we design a Trust Reputation System based on the analysis of the user's attitude toward a collection of prefabricated textual feedbacks. We propose a Reputation algorithm attempting to calculate the trust degree of the user

according to his subjective choice either "like" or "dislike" and according to the feedback trustworthiness. The proposed regulation algorithm calculates also the global trust reputation score of the product and generates the trustworthiness of the user's given feedback.

As a perspective, we will relieve these assumptions in our experimental analysis to more extensively evaluate the effectiveness, the robustness and the improvement Contribution of our Trust Reputation System.

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