Personalized Shopping App with Customer Feedback Mining and Secure Transaction

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Abstract— Reputation-based trust models are important for the success of e-commerce systems. Reputation reporting systems have been implemented in e-commerce systems such as eBay and Amazon (for third-party sellers), where overall reputation scores for sellers are computed by aggregating feedback ratings. Feedback ratings are gathered together for computing sellers' reputation trust scores. A CommTrust system is proposed where the observation made by buyers are mostly used to express opinions about the product in free text feedback review. This paper provides personalized shopping app which suggest customer best seller companies with the help of opinion mining and user preferences and develop a secure transaction system with security techniques (cryptography and steganography).

Keywords— Electronic commerse, commTrust , Encryption, Payment Gateway, Security, Cryptography, Steganography.

INTRODUCTION

Accurate trust evaluation is crucial for the success of e-commerce systems. Reputation-based trust models are important for the success of e-commerce systems. Reputation reporting systems have been implemented in e-commerce systems such as eBay and Amazon (for third-party sellers), where overall reputation scores for sellers are computed by aggregating feedback ratings. For example on eBay, the reputation score for a seller is the *positive percentage score*, as the percentage of positive ratings out of the total number of positive ratings and negative ratings in the past year. But there is one problem called as the "all good reputation" problem, where feedback ratings are over 99% positive on average. Such strong positive bias cannot exactly guide buyers to select sellers to transact with. One possible reason for the lack of negative ratings at e-commerce web sites is that users who leave negative feedback ratings can attract retaliatory negative ratings and thus damage their own reputation.

Although buyers leave positive feedback ratings, they express some disappointment and negativeness in free text feedback comments, often towards specific aspects of transactions. We propose *Comment-based Multi-dimensional trust (CommTrust)*, a fine-grained multi-dimensional trust evaluation model by mining e-commerce feedback comments. With CommTrust, comprehensive trust profiles are computed for sellers, including dimension reputation scores and weights, as well as overall trust scores by aggregating dimension reputation scores. CommTrust is the first piece of work that computes fine-grained multi-dimension trust profiles automatically by mining feedback comments. Reputation-based trust models are widely used in e-commerce applications, and feedback ratings are aggregated to compute sellers' reputation trust scores. The "all good reputation" problem, however, is prevalent in current reputation systems— reputation scores are universally high for sellers and it is difficult for potential buyers to select trustworthy sellers. In this system, based on the observation that buyers often express opinions openly in free text feedback comments, we propose CommTrust for trust evaluation by mining feedback comments. Our main contributions include: 1) we propose a multidimensional trust model for computing reputation scores from user feedback comments; and 2) we propose an algorithm for mining feedback comments for dimension ratings and weights, combining techniques of natural language processing, opinion mining, and topic modeling. This system also provides security at the time of online shopping or transaction. This system provides seller recommendation which is not done in other systems. Also the system provides secure transaction with the security techniques. This system uses two level security model. Two level security model is used to prevent various possible attacks.

OBJECTIVES

• To develop a personalized shopping app which suggest customer best seller companies with the help of opinion mining and users preferences.

• To develop a secure transaction system with security techniques (cryptography and steganography).

LITERATURE REVIEW

Xiuzhen Zhang, Lishan Cui, and Yan Wang, Senior Member, IEEE," Computing Multi-Dimensional Trust by Mining E-Commerce Feedback Comments"[1]- Reputation-based trust models are widely used in e-commerce applications, and feedback ratings are aggregated to compute sellers' reputation trust scores. The "all good reputation" problem, however, is prevalent in current reputation systems—reputation scores are universally high for sellers and it is difficult for potential buyers to select trustworthy sellers. In this paper, based on the observation that buyers often express opinions openly in free text feedback comments, we propose CommTrust for trust evaluation by mining feedback comments. Extensive experiments on eBay and Amazon data demonstrate that CommTrust can effectively address the "all good reputation" issue and rank sellers effectively. Compute comprehensive multi-dimensional trust profiles for sellers by uncovering dimension ratings embedded in feedback comments [1].

B. Pang and L. Lee, "Opinion mining and sentiment analysis,"[7]- This survey covers techniques and approaches that promise to directly enable opinion-oriented information-seeking systems. An important part of our information-gathering behavior has always been to find out what other people think. This survey covers techniques and approaches that promise to directly enable opinion-oriented information seeking systems. Our focus is on methods that seek to address the new challenges raised by sentiment ware applications, as compared to those that are already present in more traditional fact-based analysis. We include material on summarization of evaluative text and on broader issues regarding privacy, manipulation, and economic impact that the development of opinion-oriented information-access services gives rise to.

J. O'Donovan, B. Smyth, V. Evrim, and D. McLeod, "Extracting and visualizing trust relationships from online auction feedback comments,"[18]- This paper presents a system capable of extracting valuable negative information from the wealth of feedback comments on eBay, computing *personalized* and *feature-based* trust and presenting this information graphically. The algorithm operates on the assumption that online auction transactions can be categorized into a relatively small set of features. Buyers and sellers in online auctions are faced with the task of deciding who to entrust their business to based on a very limited amount of information. Current trust ratings on eBay average over 99% positive and are presented as a single number on a user's profile. This paper presents a system capable of extracting valuable negative information from the wealth of feedback comments on eBay, computing *personalized* and *feature-based* trust and presenting this information graphically.

Y. Zhang and Y. Fang, "A fine grained reputation system for reliable service selection in peer-to-peer networks,"[19]- This paper proposed a manual trust model and an automatic trust model that reduce influence of additional factors on reputation to truly reflect node trust. Distributed peer-to-peer (P2P) applications have been gaining momentum recently. In such applications, all participants are equal peers simultaneously functioning as both clients and servers to each other. A fundamental problem is, therefore, how to select reliable servers from a vast candidate pool.

PROBLEM DEFINATION:

Reputation reporting systems have been implemented in e-commerce systems such as eBay and Amazon (for third-party sellers), where overall reputation scores for sellers are computed by aggregating feedback ratings. But there is one problem called as the "all good reputation" problem, where feedback ratings are over 99% positive on average. Such strong positive bias cannot exactly guide buyers to select sellers to transact with. So to overcome this issue, we propose Personalized shopping app with customer opinion mining and secure payment techniques.

PROPOSED SYSTEM

Online Payment System- 2 Level Security Model

This system proposed personalized shopping app with customer opinion mining and secure payment techniques. 2 level security model is used to prevent 3 possible attacks given

- Shoulder Surfing attack
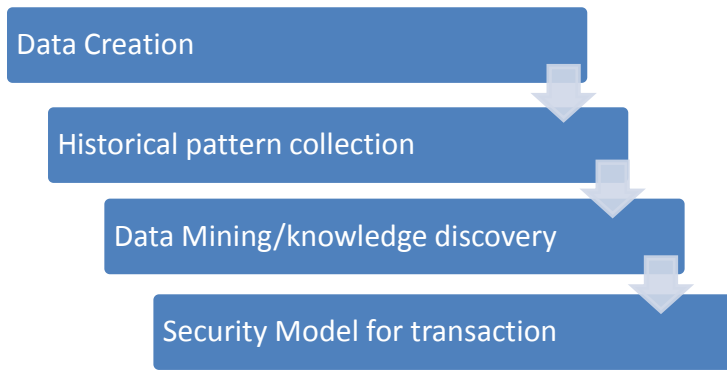- Image Disclosure attack
- Email id attack

Data Creation

Historical pattern collection

Data Mining/knowledge discovery

Security Model for transaction

Fig 2: System architecture

- Encoded Image Verification
- One time verification code Authentication

MODULES

1.   Admin-
- Create new company login
- View companies reports
- Analysis Reports in textual as well as Graphical format
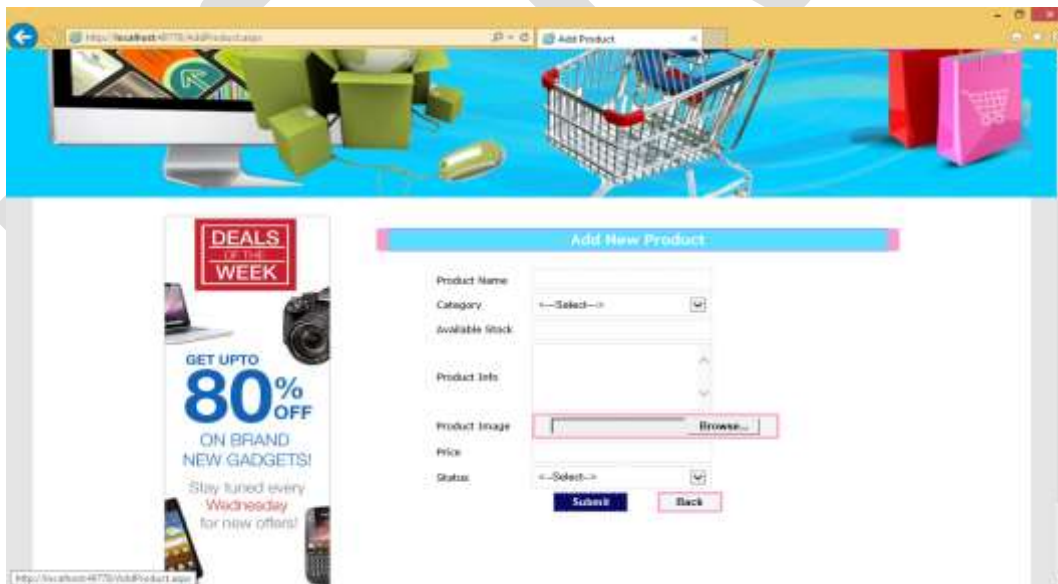
This below snapshot shows company list.

Admin can manage company that is he can add new company. Admin will also check order details means pending orders, unpaid processed orders and paid orders.

2.   Company Admin-

- Analysis Reports in textual as well as Graphical format
- Product Management
- Order Processing
- Ads and Offers management
- Customer feedbacks reports about products

Following snapshot shows the products details i.e. products of all category of particular company.

CONCLUSION:

In this way, this system suggest customer best seller companies with the help of opinion mining and user preferences and develop a secure transaction system with security techniques.

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