A Real Dynamic Cyber Trust Model

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ABSTRACT

A Real Dynamic Cyber Trust Model is an application that is proposed in order to distinguish the trust belief among the trustees who have been marketing in today's digital world by authenticated users. Though we are happy with the developing technology, still we are worrying about the security issues in every scenario. In the same way, if we shop online by trusting some products, there are few chances of getting bad products. We can experience these types of scenarios when we shop online in some interfaces like amazon, e-bay, flip-kart, etc. Of course, there are many existing systems which give a rating to the product, that help the buyer to trust the seller and buy the product. Still, there is an issue of being cheated by some wrong reviews given by unauthenticated users. In order to overcome that type of issues, this Real Dynamic Cyber Trust Model has been proposed. A Real Dynamic Cyber Trust Model has taken the scenario of seller and buyer who goes shopping for products online. This Real Dynamic Cyber Trust model acts as an interface between the Seller and Buyer. Both Modules of Seller and Buyer have the opportunity of getting registered and log in to the application. Buyer can give the feedback of any product he buys and checks the trust factor of any seller. Whereas the Seller can add, update or delete the products he sells. Based on the feedback given by the buyer the Real Dynamic Cyber Trust Model calculates the trust factor of the seller, which helps the buyer to find out whether the seller is trustworthy or not.

KEYWORDS: Authentication, Competence, Integrity, Interface, Trust Factor, Trustworthy, Trust model

INTRODUCTION

A REAL DYNAMIC CYBER TRUST MODEL is a system which is used in any of the real-time scenarios in order to provide the trust factor i.e.; the believing rate of a particular entity dynamically based on their actions performed. It further helps to maintain the details of trusters and Trustees in the Scenario. This system maintains a centralized database where the details of trusters and trustees are stored.

A Real Dynamic Cyber Trust Model can be useful to the trusters in any organization. It provides the facility to the trusters to get Trust Factor of the Trustees which changes dynamically based on the feedback of the other trusters.

The main aim of this system is to provide "Trust Factor" which changes based on the feedback of trusters. Here we are considering a scenario of a SELLER and a BUYER. Here, the Seller is a Trustee and the Buyer is a Truster.

OBJECTIVE

The main objective of this system is to calculate the trust factor of the seller based on feedback provided by the buyer for his purchased product. In this project, Seller registers with the system by entering his details. Further, he could log in by using credentials and performs operations like selecting his products from the database and updating products if any required. This system provides registration to the buyer, such that the buyer login and selects a product based on his requirement. Then the system will automatically provide the id of seller producing that product which helps buyer either to get trust factor of a particular seller or provides the feedback to a particular seller about his product.

AIM AND SCOPE
A. Aim
The main aim of this system is to provide Trust Factor of Seller which changes dynamically based on feedback provided by the Buyers.

B. Scope
The scope of this system is to enable automated trust management that represents trusting behaviors, trusting belief in integrity from that incompetence. We propose this real dynamic cyber trust model with the authentication of the user.

EXISTING SYSTEMS
RBAC (ROLE BASED ACCESS CONTROL) is a modern system uses digital identity as evidence about a user to grant access to resources the user is entitled to. However, holding evidence does not necessarily certify a user's good behavior.

For example, when a credit card company is deciding to issue a credit card to an individual, it does not only require evidence such as social security number and home address

but also checks the credit score, representing the belief about the applicant, formed based on previous behavior. That belief is called dynamic measure which assures that a user will not conduct harmful actions. Similarly, here our work is proposed. We developed a real dynamic trust model with authentication of the user. Experimental evaluation of the proposed integrity belief model in a simulated environment of entities with different behavior patterns suggests that the model is able to provide better estimations of integrity trust behavior than other major trust computation models, especially in the case of trustees with changing behavior.

Hence, we proposed a REAL DYNAMIC CYBER TRUST MODEL with user authorization which solves this problem by having both integrity trust and competence trust.

➢ Competence means a trustee havings the ability to perform certain tasks.

➢ Integrity means a trustee is honest and keeps commitments.

SYSTEM ANALYSIS
The Real Dynamic Cyber Trust Model is built on Net Beans IDE, where JAVA is front-end and MySQL is back-end connected using JDBC.

It is independent of the operating system and accessible application.
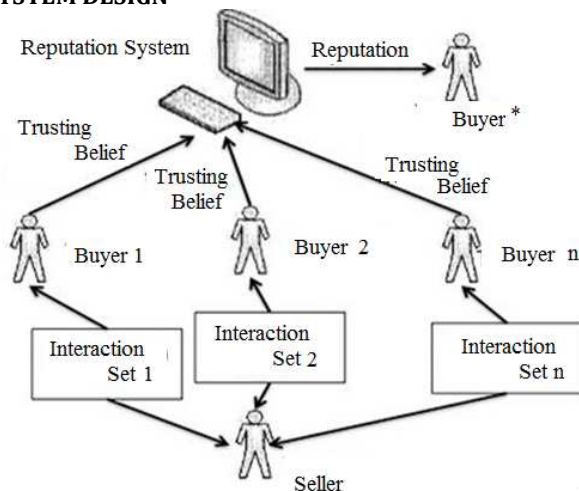
A. **Hardware Requirements**:
➢ Processor   : Pentium 3
➢ Speed   : 1.1 GHz
➢ RAM   : 256 MB (min)
➢ Hard Disk   : 20 GB (min)

B. **Software Requirements:**
➢ Operating System   : Windows XP
➢ Front End   : Java
➢ Back End   : MySQL
➢ Database Connectivity   : JDBC

SYSTEM DESIGN

As per our Scenario of SELLER-BUYER, here the trustee is the seller. His products could be purchased by 'n' number of people (buyers). The feedback of product purchased buyers will be given to our trust model (Reputation System). Based on which the trust factor of that particular Seller will be dynamically changed and is provided to the truster (Buyer).

PROJECT ANALYSIS
Our Real dynamic cyber trust model contains three different modules namely:

➢ **Reputation System Module:**
The Reputation System stores and provides the operations done by the Seller and Buyer. It provides Trust Factor of Seller to the Buyer and also changes it dynamically based on feedback provided by the Buyer.

➢ **Seller Module:**
The Seller registers and login into the system in order to select, update or delete his products.

➢ **Buyer Module:**
The Buyer registers and login into the system in order to select the products and get its corresponding seller's id, such that he could get Trust Factor of that Seller or he can provide feedback to the Seller's product.

CONCLUSION
In REAL DYNAMIC CYBER TRUST MODEL, we proposed and designed a dynamic trust model for determining the trust factor of a seller in a SELLER-BUYER scenario. This system provides services such as registrations and logins for seller and buyer, buyers view products of different sellers, obtain the trust factor of seller given by multiple buyers and they provide feedback to sellers. The sellers will give the details of the products they produce. The buyer will see the products of different sellers along with their ids'. Among different products, buyers will select their required products. The system we developed can be used by different scenarios. Buyers can also see the existing trust factor saved in our system. The trust factor of a particular seller will be varied depending on the feedback provided by the buyers who purchased products. This model is ingrained in answering from social science and is not restricted to trusting belief as most cyber methods are. We presented a demonstration of context and functions that relate dissimilar contexts, enabling Building and testing initial competence trust. Experiments in a virtual trust environment show that the proposed integrity trust model carries out better than other major trust models in calculating the behavior of users whose behavior transform based on certain patterns over time.

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