Credit Card Fraud Detection System

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Abstract:-

Now a day, the most popular payment mode is credit card for online and offline in world, it provides cashless shopping at every shop in all countries. It will be the mainlysuitable way to do online shopping, paying bills etc. hence, risks of fraud deal using credit card has also been growing. In the existing credit card fraud detection business processing system, fraudulent transaction will be detected after business deal is done. It is not easy to find out fake and regarding lose will be barred by issuing authorities. Hidden Markov Model is the arithmetical tools for engineer and scientists headed for solve different problems. In this paper, it is shown that credit card scheme can be detected using Hidden Markov Model throughout transactions. Hidden Markov Model helps to obtain a high fraud exposure mutual with a low copied alarm rate. In recent years credit card became one of the essential part of the people. Instead of carrying huge amount in hand it is easier to keep credit card. But now a day that too becomes unsafe. One of the issues in front of credit card fraud detection systems is that a important fraction of transactions labeled as fraudulent are in fact legitimate.

Keywords: - Data mining, fraudulent, Meta-learning

1.1 INTRODUCTION

In living days credit cards are used for purchasing merchandise and services with the help of fundamental card for online transaction or physical card for offline transaction. In a physical-card based purchase, the cardholder presents his card physically to a merchant intended for making a payment.

To carry out deceptive transactions in this type of purchase, an attacker has to lift the credit card. If the cardholder does not understand the beating of card, it can lead to extensive financial loss to the credit card company. In online payment style, attackers need only slight information for doing fake transaction (secure code, card number, expiration date etc.). In this purchase method, mainly transactions will be done through Internet or telephone. To commit fraud in these types of purchases, a fraudster simply needs to know the card details.

Fraud detection based on the analysis of purchase data of cardholder is a promising way to reduce the rate of successful credit card frauds. Since humans tend to exhibit specific behaviorist profiles, every cardholder can be represented by a set of patterns containing information about the typical purchase category, the time since the last purchase, the amount of money spent, etc. Deviation from such patterns is a potential threat to the system

1.2 BASIC CONCEPT

In the existing credit card fraud detection business processing system, fraudulent

transaction will be detected after transaction is done. It is hard to find out fraudulent and as regards loses will be excluded by issuing authorities.

In our proposed system we develop a credit card fraud system using the Hidden Markov Model during transactions. Hidden Markov Model helps to obtain a high fraud exposure shared with a low copied alarm rate.

- The Transactions of the account holder never stopped as this system allows the user to use the virtual card using the virtual ID and password, until he gets the new card.

- The user can easily block the card by him when he finds that the card is being stolen.

- In this system we have used the ONE TIME PASSWORD for the security to get the virtual ID and Password securely.

- We can find the most truthful detection using this technique.

1.3 PROPOSED SYSTEM

1. In the credit card fraud detection system, there is use one model that handles all things that are happened throughout the transaction.

2. In this system the Historical data is stored as the previous transactions; if any problem occurs about transaction then Cardholder can check the previous data.

3. There is use model builder to build the model into the system.

4. Online Fraud can be detected during the transaction, or after transaction with the help of transaction processor.

5. Cardholder also gives the feedback to the system, so that system can solve the all problems that occurred during transaction if any.

6. This system gives you Schedulers previous transactions, which can be seen by offline also.

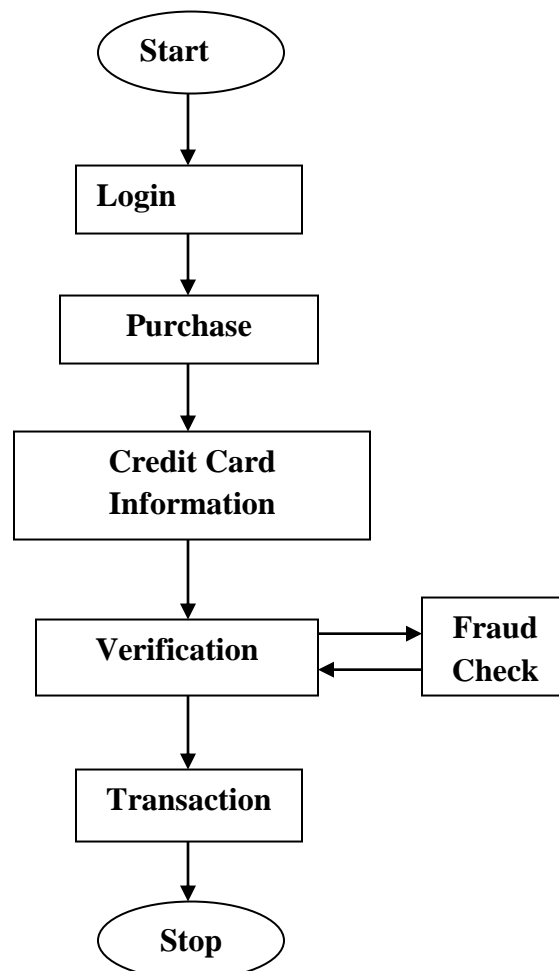7. Transaction Database is used to store all previous transaction during offline also.

8. I present a behavior and Location Analysis (BLA).Which does not require fraud signatures and yet is able to detect frauds by considering a cardholder's spending habit.

1.4 FEATURES

- The system store previous transaction patterns for each user.
- Based upon the user spending ability and even country, it calculates Users characteristics.
- More than 20-30% deviation of user's transaction is considered as an invalid attempt and system takes action.

2. SYSTEM FOR PROJECT

In this Fraud Detection System, there is a flow that handles the validation of transaction, which occurs by cardholder. Verification and validation is check by this System. First it checks the verification if it is verified then it goes to validation.

```
        Start
          |
          v
        Login
          |
          v
      Purchase
          |
          v
   Credit Card
   Information
          |
          v
   Verification  ──>  Fraud
               <──    Check
          |
          v
    Transaction
          |
          v
        Stop
```

3. SYSTEM SPECIFICATIONS

3.1 Hardware Specification:

- Processor-i3

- Min Hard disk- 4 GB

- Min Memory -1 GB RAM

3.2 Software Interface:

- Windows XP, Windows 2007(Ultimate enterprise)

- SQL 2008

- Virtual studio 2010

4. FUTURE WORK

The different algorithms can be used to detect and improve the fraudulent activities done using credit card. Optimization algorithms are used with combination of algorithms or any one data mining algorithm for the best results. In future we can also develop the Graph-based fraud detection system.

5. CONCLUSION

In modern world the use of credit card for multiple purposes is inevitable. The increase in the use of credit card also increases the fraudulent activities and a great loss of amount. Lot of research work has been carried in this field to develop efficient and accurate techniques for the fraud detection. Hence the careful examination of earlier proposed algorithms is necessary.

The future work determines to develop an effective data mining algorithms for credit card fraud detection. To look up merchants risk management level in an regular and efficient way, structure an accurate and easy behavior credit card risk monitoring system is one of the key tasks for the merchant banks. One plan of this study is to recognize the user model that best identifies fraud cases. There are a lot of ways of detection of credit card fraud. If one of these or mixture of algorithm is useful into bank credit card fraud detection system, the probability of fraud transactions can be predicted quickly after credit card transactions by the banks and a chain of anti-fraud strategies can be adopted to prevent banks from great losses before and decrease risks. This paper gives generous towards the effective ways of credit card deceptive detection.

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