Fraud Detection of Credit Card Payment System

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Abstract- The use of credit cards for online purchases has increased recently thereby causing credit card fraud. Thus there is a need to detect and prevent credit card frauds, In this paper, we propose a method to detect fraud in credit card transactions using Genetic Algorithms. The aim is to develop a search heuristic method of generating test data and to generate useful solutions to optimization and search problems. A credit card payment system is developed which is a user friendly system. It allows utilization of all the facilities provided by an online banking system including online shopping. This system also stores all the user details in a secure manner. Thus using this system a user can perform banking operations and purchase items online without credit card fraud.

***Index Terms*-Genetic algorithm, data mining, heuristic approach, fraudulent transactions, evolution.**

1. INTRODUCTION

The increase usage of credit cards for online purchases as well as common purchases causes a credit card fraud. In the electronic payment system mode, fraud transactions are climbing on the regular basis. The users need to wait for hours at the bank. Instead they can just take the service of Online Credit Card Fraud Detection System. This paper is to propose a credit card fraud detection system using genetic algorithm. Genetic algorithms are evolutionary algorithms which aim at obtaining better solutions as time progresses and technically to eliminate the fraud, a high importance has given to develop efficient and secure electronic payment system to detect whether a transaction is fraudulent or not.

2. OVERVIEW OF THE SYSTEM

Credit card fraud detection payment system presents to find the detection of credit card fraud mechanism and examines the result based on the principles of genetic algorithm. The advantage of detecting fraud is to increase security for both credit card companies and their clients. The prevention of fraud transactions are not performed from being cleared; the company must accept the financial cost of that transaction. The aim is to develop a method of generating test data and to detect fraudulent transaction with this algorithm. This algorithm is an different technique and acceptable based on the principles of genetic and natural selection, heuristic used to solve high complexity computational problem .This algorithm is a different technique and evolutionary search based on the principles of genetic and natural selection are used to solve high complexity computational problems.

3. EXISTING SYSTEM

The prevailing data mining concerns people with credit card fraud detection model based on data mining. Since our problem is approached as a classification problem, classical data mining algorithms are not directly applicable. So an alternative approach is made by using general purpose heuristic approaches like genetic algorithms.

4. PROPOSED SYSTEM

We propose a credit card fraud detection system by using genetic algorithm. This algorithms are optimization algorithms which aim at obtaining better solutions as time moves. If a card get copied or stolen or lost and captured by fraudsters it is usually used until its available limit is depleted. Instead of correctly classified transactions, a tip to limit the total availability on cards subject to fraud is more prominent. It aims in reduce the wrong alerts using genetic algorithm where a set of interval valued parameters are optimized . It is to develop a fraud detection system using genetic algorithm.

During the credit card transaction, the fraudulent transaction is detected and the number of false alert is being minimized by using genetic algorithm. Instead of maximizing the numbers of correctly classified transactions, we defined an aim of function where the miss classification costs are values and thus correct classification of some transactions are more important than correctly identifying the others. The huge amount of losing due to fraudulent transaction and the awareness of the relation between loss and the available limit have to be reduced.

12. ARCHITECTURAL & SYSTEM DESIGN

Architectural design represents the structure of data and program components that are required to build a computer based system. It consider the architectural style that the components of system. Although a software engineer can design both and architectural the job is often allocated to specialists when large complicated systems are to be built. A database or data warehouse designer creates

data architecture for a system. The' system architect' choose the requirements derived during system engineering and software requirement analysis.

Architectural design begins with data design and then proceeds to the derivation of one or more representations of the architectural structure of the system. During architectural design, an architecture model encompassing data architecture and program structure is created. Properties of the components and relationships are described.

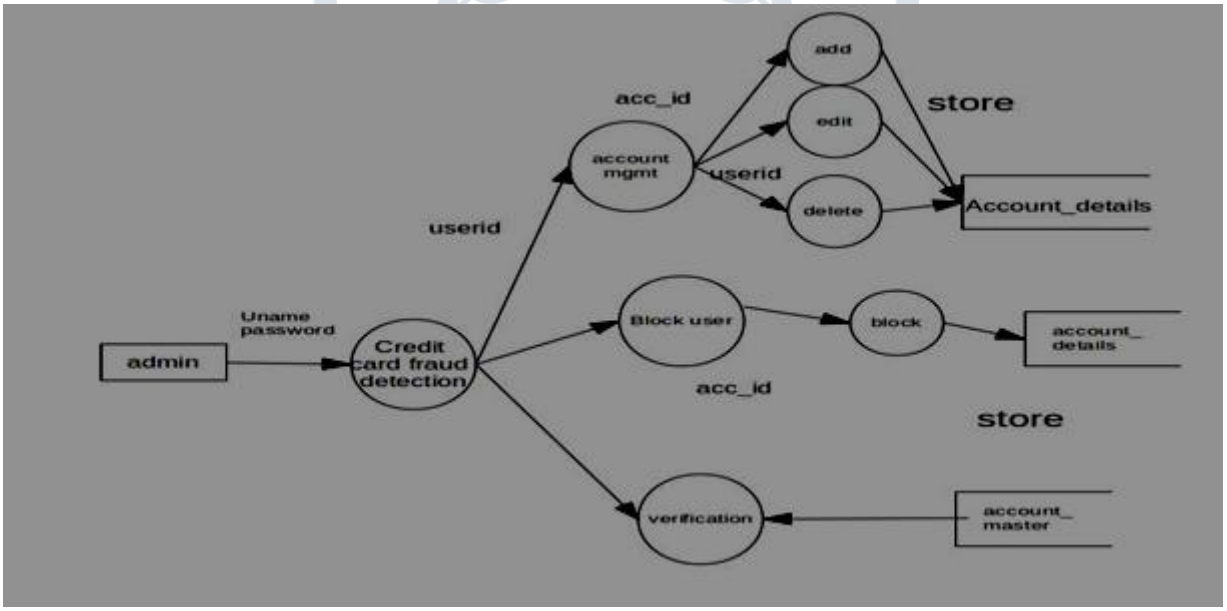
The term design describes a final system and the process by which it is developed. For implementing the technical specification of the system will be applied. It includes the writing the programs and program testing.

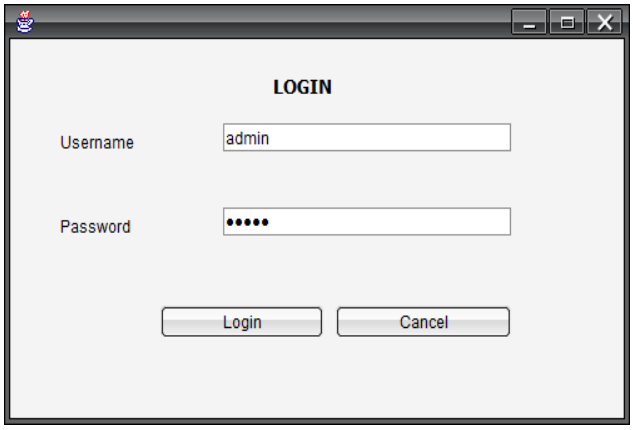
System design is the process or art of defining the architectural components and its modules, interfaces and data's are needed for satisfying specified requirements of the system. Application of the systems theory can be considered to its product development. There can be overlapping and synergy with the discipline of system evaluation, architecture and engineering.

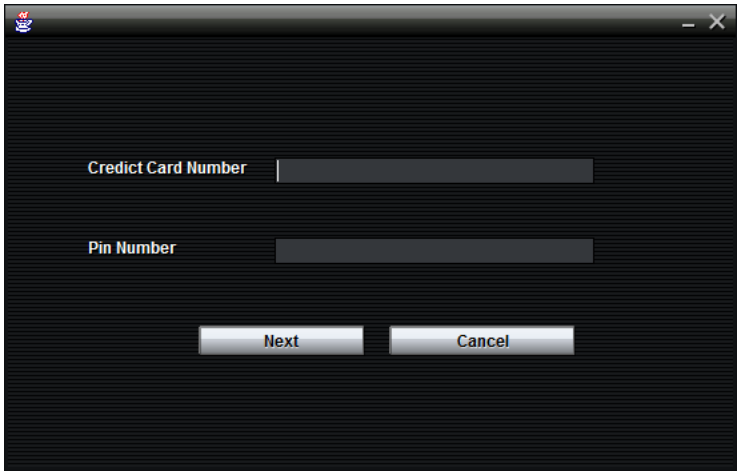
The main objective of the system design is to use the package easily by any computer systems. System design involves various stages as:

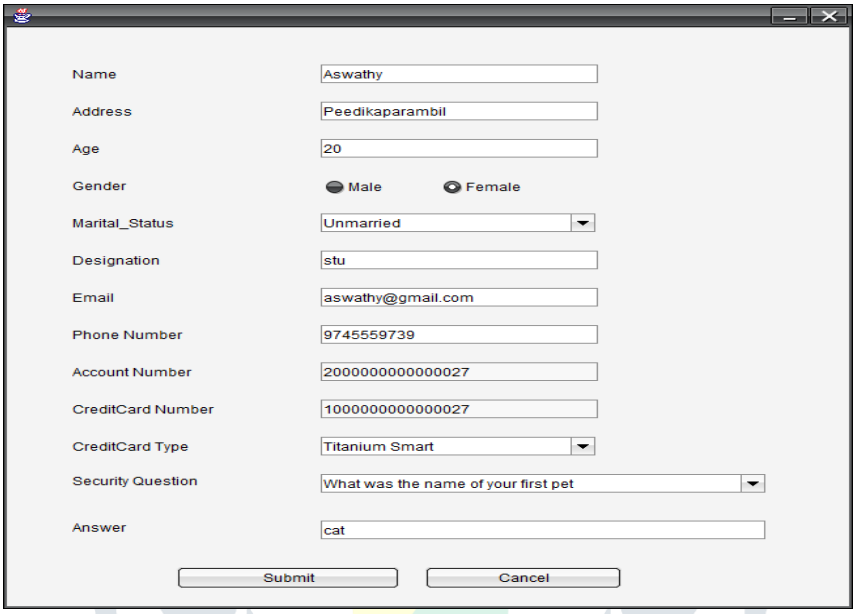
1. Data Entry
2. Data correction.
3. Data selection.
4. Processing.
5. Sorting and indexing.
6. Report Generation.

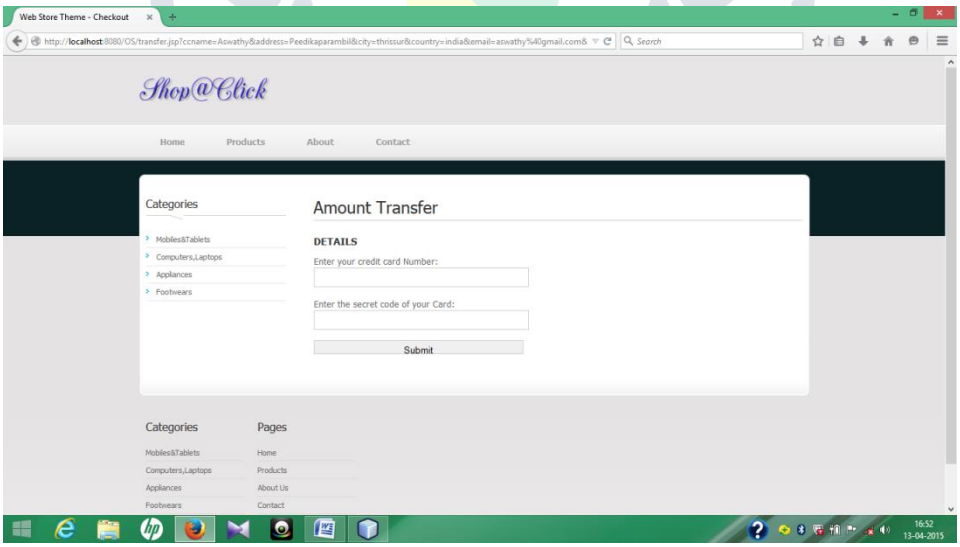
System Design is the creative act of invention and designing new inputs, offline files of a database, procedures and output needed for processing business to meet an organizational objective. System Design is created by gathering information during analysis of the system.











14. IMPLEMENTATION

Implementation is the stage in the project where the theoretical design is turned into working system and is giving confidence on the new system for the users that it will work efficiently and effectively. Careful planning is needed, investigation of the current system and its constraints on implementation design of methods to achieve the change over an evaluation of change over methods. Rather

than planning major tasks of preparing the implementation are education and trained of the users. The more complex system is being implemented the more involved will be the system analysis and design effort required just for implementation.

Implementation is the final and important phase. Achieving a l new system successfully and in giving the user's confidence that the new system will work be effectively is the most critical stage. The implementation of the system can be performed only after through testing is done and if it found to working according to the specification. The greatest security can be offered by this methods also since the old system can take over if the error are found or inability to handle certain type of transaction while using the new system**.**

In this system admin will register the users with their personal details. Users will provide a unique account number and credit card number. Users will get this unique numbers either at the time of registration or will be send to their mail address. Users can use this account number and credit card number for money transactions as well as for online shopping. At the time of transactions of money a secret code will be send to their mobiles and with the help of those secret codes transactions are possible. So it provide a security that transactions are done with correct persons and no fraud interrupts. Users will get a messages on their mobile phones about the balance and transactions of amount to ensure that the transactions occurred with the right persons.

15. CONCLUSION

Genetic algorithms are evolutionary algorithms which aim at obtaining better solutions as time progresses. If a card is copied or stolen or lost and captured by fraudsters it is usually used until its available limit is depleted. Instead of the number of correctly classified transactions, a solution which limits the total availability on cards subject to fraud is more prominent. It aims in reducing the false alerts using genetic algorithm where a set of interval valued parameters are optimized. It is to develop a credit card fraud detection system using genetic algorithm.

During the credit card transaction, the fraudulent transaction is detected and the number of false alert is being minimized by using genetic algorithm. Instead of maximizing the numbers of correctly classified transactions we defined an objective function where the miss classification costs are value and thus, correct classification of some transactions are more important than correctly classifying the others. The high amount of losses due to fraud and the awareness of the relation between loss and the available limit have to be reduced. The fraudulent transaction has to be deducted in real time and the number of false alert has to be minimized.

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17. REFERENCE

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