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(54) **METHOD AND SYSTEM FOR DETECTING FRAUD IN A CREDIT CARD TRANSACTION OVER THE INTERNET**

7,096,192, which is a continuation of application No. 08/901,687, filed on Jul. 28, 1997, now Pat. No. 6,029, 154.

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(57) **ABSTRACT**

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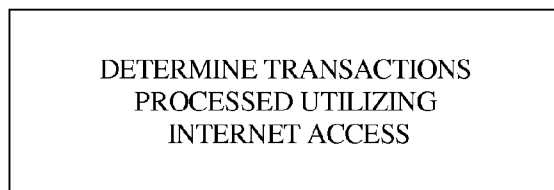
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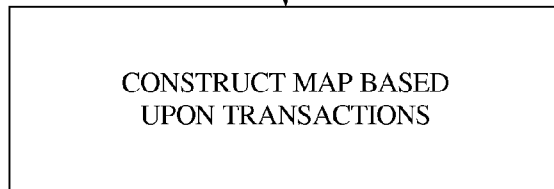
(63) Continuation of application No. 12/175,191, filed on Jul. 17, 2008, now abandoned, which is a continuation of application No. 11/168,966, filed on Jun. 27, 2005, now abandoned, which is a continuation of application No. 09/442,106, filed on Nov. 17, 1999, now Pat. No.

A method and system for detecting fraud in a credit card transaction between consumer and a merchant over the internet. The method and system comprises obtaining credit card information relating to the transaction from the consumer; and verifying the credit card information based upon a variety of parameters. The variety of parameters are weighted so as to provide a merchant with a quantifiable indication of whether the credit card transaction is fraudulent. In so doing, an integrated verification system is provided which allows a merchant, or the like, to accurately and efficiently determine the validity of a transaction over the internet.

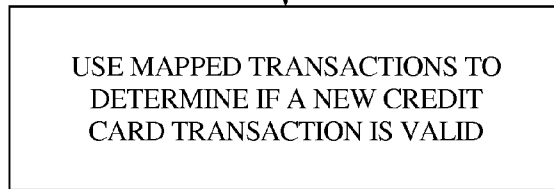
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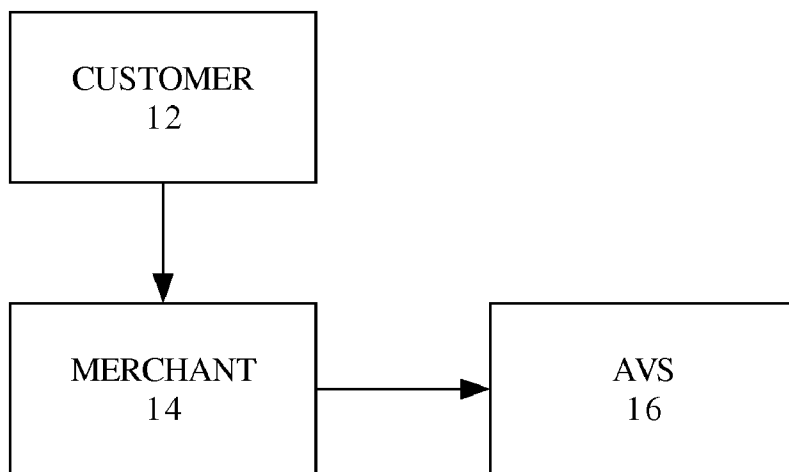


304



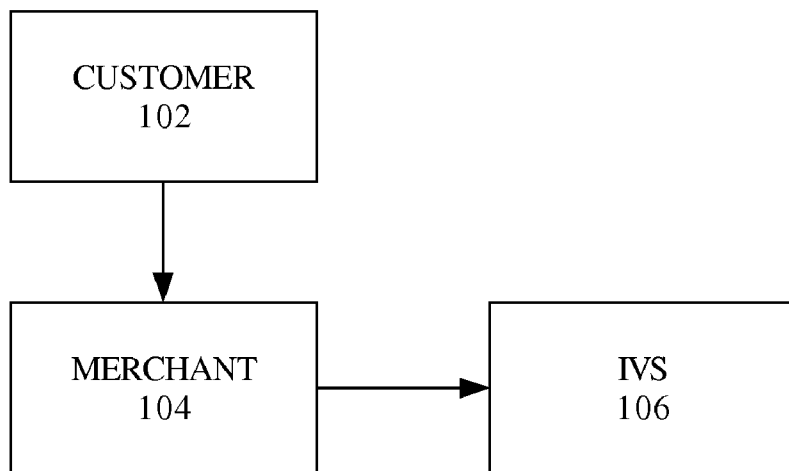
306





10

FIG. 1
(PRIOR ART)



100

FIG. 2

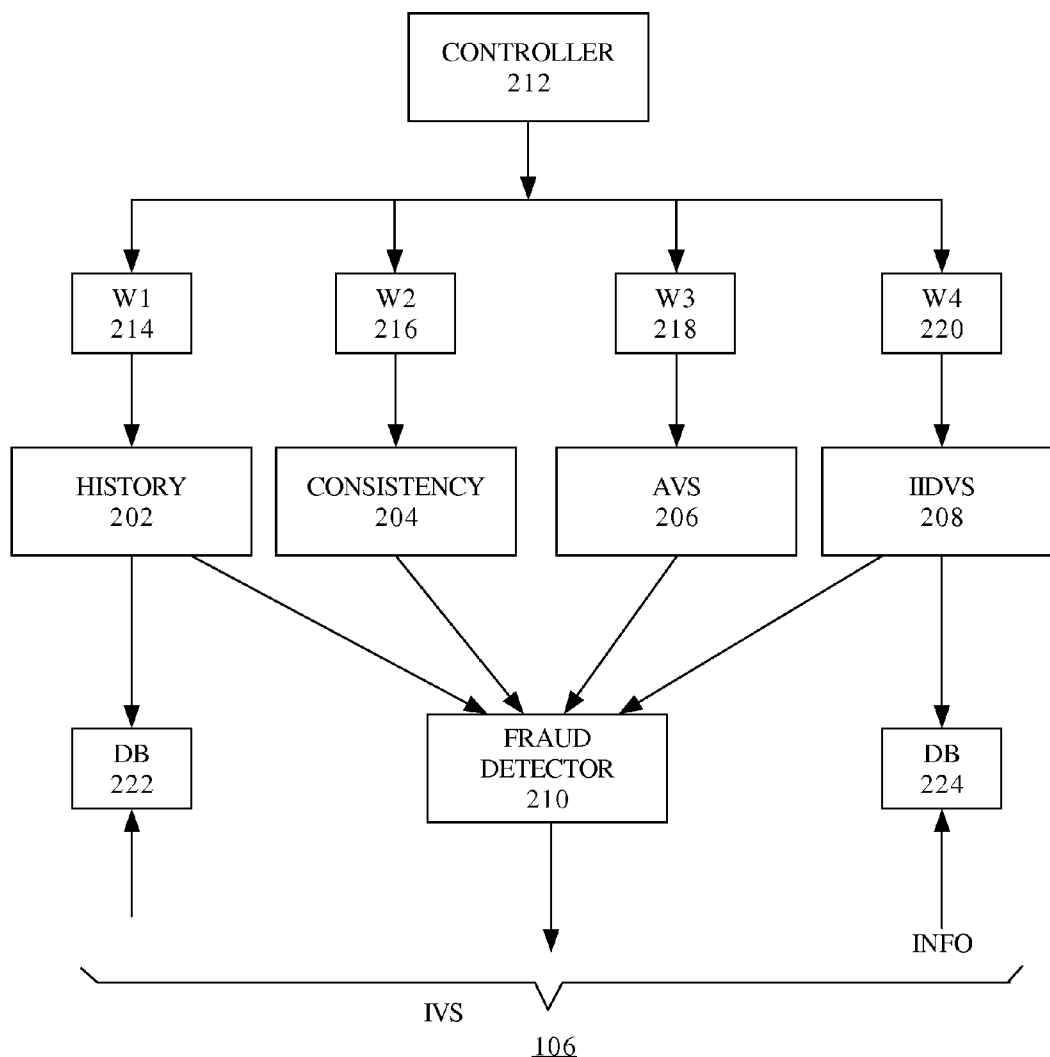


FIG. 3

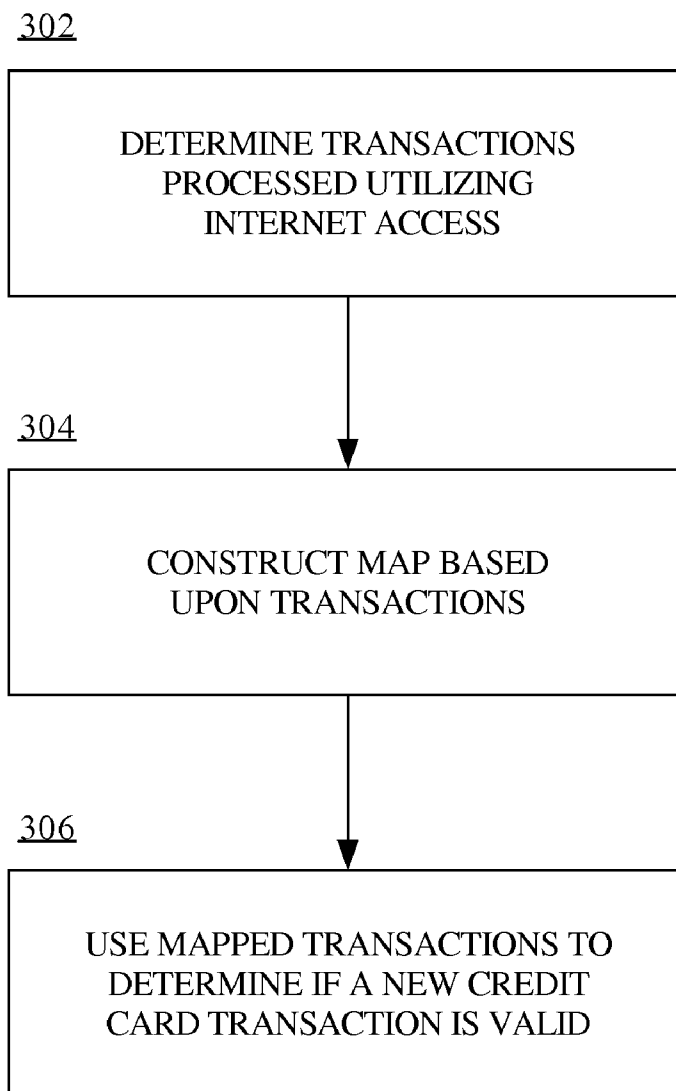


FIG. 4

METHOD AND SYSTEM FOR DETECTING FRAUD IN A CREDIT CARD TRANSACTION OVER THE INTERNET

BENEFIT CLAIM; CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit and domestic priority under 35 U.S.C. 120 as a Continuation of prior application Ser. No. 12/175,191, filed Jul. 17, 2008, which is a Continuation of Ser. No. 11/168,966, filed Jun. 27, 2005, which is a Continuation of Ser. No. 09/442,106, filed Nov. 17, 1999, which is a Continuation of Ser. No. 08/901,687, filed Jul. 28, 1997, now U.S. Pat. No. 6,029,154, the entire contents of which are hereby incorporated by reference for all purposes as if fully set forth herein.

FIELD OF THE INVENTION

[0002] The present invention relates generally to credit card transactions and specifically to detecting fraud in such credit card transactions when ordering and downloading information over the internet.

BACKGROUND OF THE INVENTION

[0003] Credit card transactions are being utilized in a variety of environments. In a typical environment a user provides a merchant with a credit card, and the merchant through various means will verify whether that information is accurate. For example, referring now to FIG. 1, a typical credit card verification system 10 is shown. In such a system, a merchant 12 receives a credit card from the customer 14. The merchant then verifies the credit card information through an automated verification system 16.

[0004] These systems work well in a credit card transaction in which either the customer has a face-to-face meeting with the merchant or the merchant is actually shipping a package or the like to the address of a customer. The verification procedure typically includes in the AVS system address information and identity information. However, when downloading information from an online service or the internet, the address and identity information is not enough for to adequately verify that the customer who is purchasing the goods is actually the owner of the credit card. For example, an individual may have both the name and the address of a particular credit card holder and that information in a normal transaction may be sufficient for authorization of such a transaction. However, as an internet transaction it is possible to have all the correct information related to the particular credit card holder through unscrupulous means, and therefore, be able to fraudulently obtain information.

[0005] Accordingly, what is needed is a system and method that overcomes the problems associated with a typical verification systems for credit card transactions particularly in the internet or online services environment. The system should be easily implemented within the existing environment and should also be straightforwardly applied to existing technology. The present invention addresses such a need.

SUMMARY

[0006] A method and system for detecting fraud in a credit card transaction between consumer and a merchant over the internet. The method and system comprises obtaining credit card information relating to the transaction from the consumer; and verifying the credit card information based upon

a variety of parameters. The variety of parameters are weighted so as to provide a merchant with a quantifiable indication of whether the credit card transaction is fraudulent. In so doing, an integrated verification system is provided which allows a merchant, or the like, to accurately and efficiently determine the validity of a transaction over the internet.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is diagram of the prior art verification system for credit card transaction.

[0008] FIG. 2 is a verification system in accordance with the present invention.

[0009] FIG. 3 is a flow chart of the verification system in accordance with the present invention.

[0010] FIG. 4 is a flow chart of the integrated verification system in accordance with the present invention.

DETAILED DESCRIPTION

[0011] The present invention relates to a fraud detection for use in credit card transaction over online services or the internet. The following description is presented to enable one of ordinary skill in the art to make and use the invention and is provided in the context of a patent application and its requirements. Various modifications to the preferred embodiment will be readily apparent to those skilled in the art and the generic principles herein may be applied to other embodiments. Thus, the present invention is not intended to be limited to the embodiment shown but is to be accorded the widest scope consistent with the principles and features described herein.

[0012] The present invention provides an integrated verification system for credit cards transactions over an online service or the internet. Referring now to FIG. 2, what is shown is a block diagram of a system 100 which would use the verification procedure in accordance with the present invention. System 100 includes similar to FIG. 1, a customer 102 and a merchant 104. The customer 102 provides the merchant with a credit card, the merchant then sends it to an integrated verification system IVS 106 which includes a variety of parameters providing consistency, history and other information in an integrated fashion to determine the credit card holder's validity. The IVS 106 is typically implemented in software for example in a hard disk, floppy disk or other computer-readable medium. In a typical embodiment, when the customer 102 orders a particular piece of software to be downloaded from a merchant 104, the merchant will provide the credit card number, e-mail address and other pertinent information to the IVS 106. The integrated verification system 106 then weights the variety of parameters so as to provide a merchant with a quantifiable indication on whether the credit and transaction is fraudulent. To more clearly describe the operation of a system and method in accordance with the present invention, refer now to the following discussion in conjunction with the accompanying figures.

[0013] FIG. 3 shows a simple block diagram for providing an integrated verification of a credit card transaction over the internet. The IVS 106 includes a controller 212 which receives the credit information from the merchant and then sends that information on to a variety of parameters 202-208. The plurality of parameters that operate on the information to provide an indication of whether the transaction is valid. In this embodiment, the plurality of parameters comprises a

history check **202**, a consistency check **204**, an automatic verification system **206** and an internet identification verification system **208**. The output or individual indications of validity of these parameters are provided to fraud detector **210**. The fraud detector **210** combines these inputs to provide an integrated indication of whether the particular transaction is valid.

[0014] Consistency check **204** allows one to determine whether the credit information is consistent, i.e., does the credit information match the user and other information. AVS system **206** provides similar information as AVS **16** described in FIG. **1**. A key feature of both the history database and the internet ID database is that they can be accessed and the information there within can be supplemented by a variety of other merchants and, therefore, information from those merchants is obtainable thereby.

[0015] History information check **202** is provided which also accesses a database **222** which may include card number and email information. The history check **202** will also actively determine if the particular transaction matches previous database information within the history database **222**. Therefore, the internet ID verification system and history check increases in utility over time. The internet ID verification system **208** provides for a system for verifying the validity of an internet address, the details of which will be discussed hereinafter. The internet identification verification system similar to the history check includes a database **224** which can be added to by other merchants.

[0016] In addition, the internet identification verification system **208** accesses and communicates with a database of internet addresses. This system will be used to verify whether the internet address is consistent with other internet addresses being used in transactions utilizing this credit card.

[0017] These different parameters are weighted via weighting blocks **214-220**, respectively, dependent upon the particular credit card transaction. For example, if the amount of dollar transaction is critical, it may be appropriate for the history and AVS system **202** and **204** to be weighted more critically than the other parameters. On the other hand, if a critical point is the consistency of the internet address, then the consistency check **204** and the internet identification system **208** may be more critical. Accordingly, each of the verification parameters **202-208** may be weighted in different amounts depending upon its importance in the verification process.

[0018] A particularly important feature of the present invention is the internet identification system **208** and its operation within the integrated verification system **106**. Through this system **208**, it is possible to quickly determine if an internet identification address is being utilized fraudulently. To describe this feature in more detail, refer now to FIG. **4** and the accompanying discussion.

[0019] FIG. **4** is a flow chart of the internet identification verification system **208**. The goal of internet identification verification system **208** is to determine whether the physical address or the physical location of the address compares to a previous physical location that was used for that particular internet address. Accordingly, in the flow chart of FIG. **4**, first the number of transactions that had been processed using that particular internet address is obtained from the database **224**, via step **302**. Thereafter, a map of those transactions is constructed based on those obtained transactions, via step **304**. Finally, the constructed map is used to determine if the new credit card transaction is valid, via step **306**. Accordingly,

through a system and method in accordance with this system, an internet identification verification system is provided which can quickly and easily determine whether a particular internet address is related to a particular credit card transaction.

[0020] Accordingly, what is provided is a system and method for accurately determining whether a particular credit card transaction is a fraudulent one. The integrated verification system in accordance with the present invention provides for weighting the variety of parameters so as to provide a merchant with a quantifiable indication on whether the credit and transaction is fraudulent.

[0021] Although the present invention has been described in accordance with the embodiments shown, one of ordinary skill in the art will recognize that there could be variations to the embodiment and those variations would be within the spirit and scope of the present invention. Therefore, although the present invention was described in terms of a particular verification system, one of ordinary skill in the art readily recognizes, that any number of parameters can be utilized and their use would be within the spirit and scope of the present invention. Accordingly, many modifications may be made by one of ordinary skill without departing from the spirit and scope of the present invention, the scope of which is defined by the following claims.

What is claimed is:

1. A system for detecting fraud in a credit card transaction between consumer and a merchant over the internet comprising:

means for obtaining credit card information relating to the transaction from the consumer;

means for verifying the credit card information based upon a plurality of parameters comprising:

- a) means for obtaining information about other transactions that have utilized an internet address that is identified with the credit card transaction;
- b) means for constructing a map of credit card numbers based upon the other transactions;
- c) means for utilizing the map of credit card numbers to determine if the credit card transaction is valid.

2. The system of claim **1** wherein the plurality of parameters include a consistency check, a history check, an automatic verification system and an internet identification system.

3. The system of claim **2** wherein the history check includes a database which can be accessed and supplemented by other merchants.

4. The system of claim **2** wherein the internet identification system includes a database which can be accessed and supplemented by other merchants.

5. A computer readable medium containing program instructions for detecting fraud in a credit card transaction between consumer and a merchant over the internet, the program instructions configured for:

obtaining credit card information relating to the transaction from the consumer;

verifying the credit card information based upon a plurality of parameters by:

- a) obtaining information about other transactions that have utilized an internet address that is identified with the credit card transaction;

- b) constructing a map of credit card numbers based upon the other transactions and;
- c) utilizing the map of credit card numbers to determine if the credit card transaction is valid.

6. The computer readable medium of claim 5 wherein the plurality of parameters include a consistency check, a history check, an automatic verification system and an internet identification system.

7. The computer readable medium of claim 6 wherein the history check includes a database which can be accessed and supplemented by other merchants.

8. The computer readable medium of claim 6 wherein the internet identification system includes a database which can be accessed and supplemented by other merchants.

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