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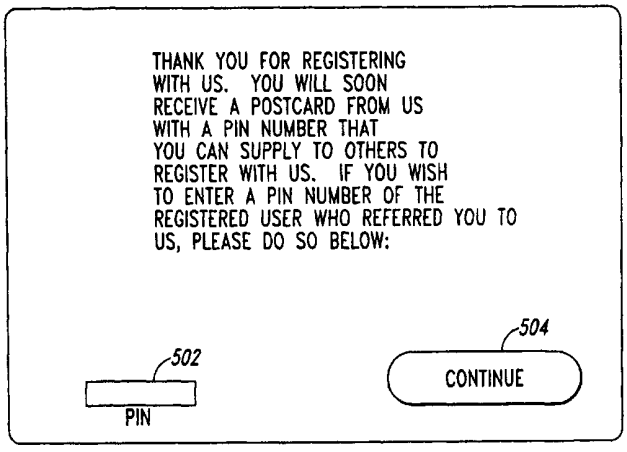
(54) Title: COMBINED OFFLINE AND ONLINE VERIFICATION OF USER LEGITIMACY FOR ELECTRONIC COMMERCE



(57) Abstract: A method and system for verification of the legitimacy of a prospective customer by an E-commerce organization or E-commerce service provider. Identification information identifying a prospective customer is supplied by the prospective customer using an electronic interface, such as the Internet. Address information supplied as a portion of the identification information is verified by the E-commerce organization and a prospective customer supplying a valid address is entered in a database as a provisional user. Subsequently, the E-commerce organization sends a postcard including a PIN generated for the provisional user and contact information for the provisional user to again contact the E-commerce organization in order to complete the registration process. When the provisional user contacts the E-commerce organization in order to complete the registration process, and supplies the PIN sent to the provisional user via the postcard, the E-commerce organization activates the provisional user as a fully active registered user. An active registered user may supply the active registered user's PIN to other individuals who may supply the PIN to the E-commerce organization during registration process in order to direct referral credits to the active registered user. Only active registered users may receive referral rewards from the E-commerce organization.

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COMBINED OFFLINE AND ONLINE VERIFICATION OF USER LEGITIMACY FOR ELECTRONIC COMMERCE

TECHNICAL FIELD

The present invention relates to registration of online users by an electronic commerce business, and, in particular, to a method for employing both online and offline information exchange between the electronic commerce business and a prospective customer in order to verify that the user meets registration criteria.

BACKGROUND OF THE INVENTION

During the past five years, Internet-based exchange of goods and services between electronic commerce ("E-commerce") vendors and online customers has increased at an exponential rate. Vast improvements in connection bandwidths, web server computers, and website offering tools have sparked a proliferation of different E-commerce organization models, web-site design techniques, and electronic methods for transfer of funds and information. In many cases, E-commerce organization methods expand on, and elaborate, business methods that were in common use prior to the advent of E-commerce, adding more powerful techniques and variations made possible by the Internet and modern computing technologies.

An emerging problem in E-commerce is the need to attract customers to new E-commerce websites and to provide sufficient incentives to engender customer loyalty to those websites. One approach to both attracting customers to an E-commerce website and establishing a long-term business association with those customers is to provide financial or other business incentives to existing customers for referrals to the E-commerce website of additional prospective customers. Figure 1 shows an example E-commerce website registration page supporting customer referral incentives. The website registration page 102 shown in Figure 1 is displayed to a prospective new user via the Internet and a web browser to enable the prospective new user to input identification information in order to register as a user of an E-commerce website. The prospective customer enters textual and numeric information into various information entry fields provided on the website registration page,

including text entry fields 104-106 for entering first and last name and a middle initial and text entry fields 108-111 for entering address information. Additional text entry fields 112-115 are provided in the bottom portion of the website registration page 102 to allow a prospective customer to input information to identify an already-registered user that provided information and encouragement to the prospective customer to register with the E-commerce website. Information identifying the already registered user that referred the prospective customer can than be automatically collected by the E-commerce organization employing the website registration form in order to credit the referring registered user for the referral, and enabling the referring registered user to subsequently receive a financial or other business-related reward for the referral.

Unfortunately, like in the offline business world that preceded electronic commerce, Internet-based electronic commerce is susceptible to dishonest and malicious users who attempt to unfairly exploit referral incentive programs. In fact, unfair and dishonest exploitation of such referral incentive programs are, in many ways, far easier and potentially more lucrative in technology-based markets. For example, an unscrupulous registered user may write a simple computer program that iteratively requests the website registration page shown in Figure 1, fills in the top portion of the website registration page with fraudulent information identifying a fictitious user, and then fills in the bottom portion to identify the unscrupulous registered user as the referring registered user so that the unscrupulous registered user receives referral credits for fraudulent registrations. Far more elaborate schemes for collecting referral credits without providing honest referrals can be imagined, and have already been practiced by Internet users. For this reason, E-commerce organization managers and E-commerce website providers have recognized the need for verifying registration information that ostensibly identifies a prospective customer provided via a registration web page so that only valid new prospective customers are registered. With regard to the above example, such verification tools help to limit extension of unearned referral credits to unscrupulous users, and, in other situations, may limit access to an E-commerce website to only those users intended by an E-commerce organization to access and use the E-commerce website.

SUMMARY OF THE INVENTION

The present invention provides a method and system for verifying identification information supplied to an E-commerce organization, via a registration web page, by a prospective customer. First, address information supplied to the registration web page by the prospective customer is verified by the E-commerce organization through a third-party address-verification resource that, as part of the verification process, generates a standardized address. If the supplied address is invalid, the registration information can be immediately rejected. If the supplied address is valid, but the supplied address already appears as the address of a registered user in a database of registered users, then registration can be rejected on the basis that only single registration is allowed from any given address. Alternatively, only a fixed number of registrations from a given address might be allowed by the E-commerce organization, in which case registration of a prospective customer is rejected if a maximum allowed number of users have already registered from the supplied address. Otherwise, the registration information is accepted, and a new registered user entry is created and stored in a registered users database by the E-commerce organization with a status value indicating that the user is a provisional user.

At regular intervals, the E-commerce organization retrieves a list of provisional users from the database and sends a postcard to each provisional user in the list that includes a new personal identification number ("PIN") generated for the provisional user as well as a uniform resource locator ("URL") that identifies a web page that the provisional user can access in order to complete the registration process. The provisional user then accesses the registration completion web page and supplies the PIN included in the postcard via a text entry field included in the registration completion web page. When the provisional user submits the completed registration completion web page to the E-commerce organization, the database entry for the provisional user is updated to indicate that the provisional user has successfully completed the registration process and is now a registered user.

A registered user can supply the registered user's PIN to as yet unregistered individuals and can encourage those individuals to register with the E-

commerce organization. Those individuals can submit the registered user's PIN during the registration process in order to direct referral credits to the registered user. By using the present registration method, E-commerce organization can be assured that only one, or a fixed number, of users are registered at any particular street address and that the street address is a valid street address at which the registered user receives carrier-delivered mail. Thus, the verification process for verifying identification information of prospective customers includes both online, Internet-based techniques as well as offline, postal techniques in order to verify address information.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows an example E-commerce website registration page supporting customer referral incentives.

Figure 2 illustrates an example website registration web page.

Figure 3 illustrates an example non-verifiable address message returned as a web page to a prospective customer.

Figure 4 shows an example web page returned to a prospective customer indicating that a registered user already exists at the address supplied by the prospective customer.

Figure 5 shows an example web page indicating successful completion of the first part of the registration process.

Figure 6 shows a final web page, including a generated login password, returned to a prospective customer at the end of the first part of the registration process.

Figures 7A-B illustrate the front and back sides, respectively, of a postcard sent by an E-commerce organization to a provisional user in order to direct the provisional user to complete the registration process.

Figure 8 shows an example registration completion web page.

Figure 9 is a high-level flow-control diagram for the web server process of an E-commerce site employing one embodiment of the method and system of the present invention for verifying information supplied by prospective customers.

Figure 10 shows a flow-control diagram of the routine "register."

Figure 11 shows a flow-control diagram for the routine "referral."

Figure 12 shows a flow-control diagram for the routine "complete."

Figure 13 shows a flow-control diagram for the routine "mailing."

Figure 14 shows a flow control diagram for the routine "process postcards."

DETAILED DESCRIPTION OF THE INVENTION

The present invention is directed to a method and system for verifying identification information supplied by prospective customers of an E-commerce website during a registration process that, upon successful completion, results in teh prospective customer becoming a registered user with full access rights to the E-commerce website. As part of the identification information, prospective customers supply street address or postal address information identifying a location at which the prospective customers receive carrier-delivered mail. That street or postal address is verified by the E-commerce organization so that only prospective customers with valid street or postal addresses may become registered users. Additionally, the E-commerce site may access a database of registered users to determine whether or not there exists a registered user having the same postal or street address as that of a prospective customer. In this way, the E-commerce organization can ensure that only one, or small fixed number, of registered users are registered from any particular street or postal address.

If the supplied street or postal address can be validated, and if less than a maximal allowable number of users already registered from the verified street or postal address, then the E-commerce organization accepts the prospective customer as a provisional registered user and creates a new entry in a database of registered users that identifies the provisional user. The E-commerce organization subsequently retrieves the database entry for the provisional user and sends to the provisional user a postcard via carrier-delivered mail that includes a PIN generated for the provisional user that identifies the provisional user and a URL which the provisional user can access electronically, via the Internet and a browser, in order to complete the

registration process. When the provisional user accesses the registration completion page or pages using the URL included in the postcard, the provisional user may be accepted as a registered user by the E-commerce organization and the database entry for the provisional user updated to indicate that the provisional user has completed the registration and has become a registered user. A registered user may receive referral credits from nonusers who supply the registered user's PIN during the registration process with the E-commerce organization.

When a new, prospective customer accesses a registration web page that is part of an E-commerce website, a website registration web page that includes various text entry fields is returned to the prospective customer. Figure 2 illustrates an example website registration web page. This page includes text entry fields 202-211 in which the prospective customer may key in requested identification information. Many additional types of information, other than the information requested in the website registration page shown in Figure 2, may be requested, depending on the type of E-commerce organization with which a prospective customer is seeking registration. When the prospective customer finishes entering information into the website registration web page, the prospective customer may position a cursor over the continue button 212 and input a mouse click in order to continue the registration process.

Once a prospective customer submits a completed website registration web page, and submits the web page to the E-commerce organization offering registration, the E-commerce organization, via a web server, collectes the supplied identification information from the prospective customer's returned website registration web page and uses that information to begin the registration process. According to the method of the present invention, one of the initial steps in using the supplied information, performed automatically by the E-commerce web server, is to collect the address information supplied by the prospective customer via text entry fields 205-208 and submit the collected address information to a third-party address-verification resource, e.g. the U.S. Postal Service address-verification service at http:\\www.usps.gov\ncsc\lookups\lookup_zip+4.html, or to an address-verification software package installed on the E-commerce web server or on a computer

electronically accessible to the E-commerce web server. To access an Internet-based third-party address-verification resource, the collected address information may be packaged into an HTML file and forwarded via the Internet to a server supporting the third-party address-verification resource. That server may return an indication of whether or not the address is a valid address, and, if the address is a valid address, may return a standardized address, i.e. a two-line version of the address formatted in a standardized fashion. The standardized address is useful because a given street or postal address may be specified via a number of different, redundant, textual representations. However, there is only one standardized address corresponding to each given postal or street address, allowing for easy and precise matching of standardized addresses to search information during database retrieval operations.

If a prospective customer supplies incorrect or invalid address information, as would be the case when an unscrupulous user provides fictitious user information during the registration process in order to accrue referral credits, the E-commerce web server returns to the prospective customer a web page indicating that the address was not verifiable. Figure 3 illustrates an example non-verifiable address message returned as a web page to a prospective customer. In the web page shown in Figure 3, a prospective customer may elect to return to the registration form via input of a mouse click to input area 302, or may elect to return to the home page for the E-commerce web site via input of a mouse click to input area 304. As with the display of all web pages, a prospective customer may alternatively employ browser commands in order to navigate to another web page.

If the third-party address-verification resource returns an indication that the supplied address is valid along with a standardized address, then the E-commerce web server may use the returned standardized address as a key to retrieve any entries from a database of registered users that include that standardized address. The E-commerce organization may elect to allow only a single registered user from any given street or postal address, in which case, if entries are retrieved from the database indicating an active registered user at the standardized address, then registration to the prospective customer may be denied. Figure 4 shows an example web page returned to a prospective customer indicating that a registered user already

exists at the address supplied by the prospective customer. Again, the prospective customer may either use navigational buttons included on the returned web page, as shown in Figure 4, or browser commands or graphical icons to navigate either back to the registration form or to another web page.

If the address information supplied by the prospective customer is validated by the third-party resource, and no currently active registered user with that standardized address is found in a database of registered users by the E-commerce web server, or, in alternative embodiments, if less than a maximum allowed number of registered users are currently registered from the standardized address, then the E-commerce web server returns a web page to the prospective customer indicating successful completion of the first part of the registration process. Figure 5 shows an example of a web page indicating successful completion of the first part of the registration process. In the web page shown in Figure 5, a text entry field 502 is included to allow the prospective customer to supply a PIN identifying an already registered user that referred the prospective customer to the registration page of the E-commerce organization. By supplying the PIN of an active registered user in this text entry field 502 and inputting a mouse click to the continue input region 504, the prospective customer may direct a referral credit to the registered user having the supplied PIN.

Whether or not a PIN is supplied to the web page shown in Figure 5, the prospective customer may receive from the E-commerce web server, following input of a mouse click to the input region 504 of the web page shown in Figure 5, a final web page related to the first part of the registration process providing to the prospective customer a new login password generated for the prospective customer. Figure 6 shows a final web page, including a generated login password, returned to a prospective customer at the end of the first part of the registration process. This login password is different from the PIN and allows the prospective customer to access the E-commerce website in a confidential manner. Thus, for example, the registered user to which the prospective customer directs a referral credit by supplying a PIN in the web page shown in Figure 5 has a separate login password so that, by supplying the PIN to the prospective customer, the registered user does not provide the prospective

customer with the ability to login to the E-commerce website using that supplied PIN. There are many alternative methods for controlling access and authorizing access to prospective customers and registered users. The current example illustrated in Figures 2-8 merely illustrates one possible approach.

Once a prospective customer has completed the first part of the registration process, a new registered-users database entry that includes identification information supplied by the prospective customer to the E-commerce organization exists within a database of registered users on the web server of the E-commerce organization or on a different computer intercommunicating with that web server. The new database entry may additionally include the standardized address returned to the E-commerce organization by the third-party address-verification resource, a PIN generated for the now provisional user, and the login password generated for the provisional user. At regular intervals, an automated process retrieves the entries of all provisional users from the database and, for each provisional user, automatically prints out a postcard including the PIN generated previously for the provisional user and a URL that the provisional user may access in order to complete the registration process. Figures 7A-B illustrate the front and back sides, respectively, of a postcard sent by an E-commerce organization to a provisional user in order to direct the provisional user to complete the registration process. Thus, by sending a postcard to provisional users, the E-commerce organization assures that only provisional users that receive carrier-delivered mail at the standardized address supplied by the provisional users during the first part of the registration process may complete the registration process and become active registered users. This frustrates many possible fraudulent schemes for registeration using fictitious information in order to unfairly receive referral credits or to otherwise unfairly take advantage of services provided by the E-commerce organization.

When a provisional user accesses the URL supplied in the postcard returned to the provisional user by the E-commerce organization, via the Internet and a browser, the provisional user receives a registration completion web page from the E-commerce organization. An example registration completion web page is shown in Figure 8. The registration completion web page includes text entry fields 802-806

that allow the provisional user to supply name and partial address information as well as the PIN sent to the provisional user via a postcard. When this information is correctly supplied by the provisional user along with a mouse click to the input region 808, the E-commerce organization's web server, or an associated computer, retrieves the database entry corresponding to the provisional user, verifies that the supplied information is correct, and, if the supplied information matches the information within the database entry, updates a status field within the database entry to indicate that the provisional user has now completed the registration process and has become an active registered user. As an active registered user, the user may receive referral credits from other individuals via the registered user's PIN, as described above, and my claim rewards for referral credits via a separate system of web pages.

A simple registered user's database may include a single relational table as shown below, in Table 1:

PIN	standardized Address1	standardized Address2	First Name	Last Name	Delivery Address	City	State	Zip	Status	Login ID	Referrals

Table 1

This table may be created using the following SQL-like command

```
CREATE TABLE RegisteredUsers
(
        Standardized Address1       varchar (255),
        Standardized Address2       varchar (255),
        FirstName                   varchar (255),
        LastName                    varchar (255),
        Delivery Address            varchar (255),
        City                        varchar (255),
        State                       varchar (255),
        Zip                         varchar (255),
        Status                      varchar (255),
        LoginID                     varchar (255),
        Referrals                   integer
)
```

A registered user's database table may include many additional columns for additional information requested from the prospective customer during the registration process. The simple registered user's relational table shown above is, however, adequate for the purposes of the following flow-control description of the method and system of the present invention.

Figures 9-14 are flow-control diagrams that illustrate the method and system of the present invention, described above with reference to an example Internet-based website registration process. Figure 9 is a high-level flow-control diagram for the web server of an E-commerce organization employing one embodiment of the method and system of the present invention for verifying identification information supplied by prospective customers. The web server executes an iterative loop in which the web server responds to requests for web pages, in many cases receiving information input to a previously transmitted web page as part of the request for a different web page. In step 902, the web server receives a next request from the Internet. If the next request is a request for the website registration page, an example of which is illustrated in Figure 2, as detected in step 904 by the web server, the web server transmits the website registration page in step 906 and then returns to step 902 to receive a next request from the Internet. If the next request contains information supplied by a prospective customer to the website registration page along with a request to continue, as detected by the web server in step 908, then the web server calls the routine "register" in step 910 prior to returning to step 902 to receive a next request. The routine "register" is described below. If the next request is a request to navigate to the homepage of the E-commerce organization supporting the web server, as detected by the web server in step 910, the web server, in step 912, transmits the home page to the requesting user prior to returning to step 902. If the next request corresponds to input of a mouse click to the input region 504 of the web page shown in Figure 5, as detected by the web server in step 912, then the web server calls the routine "referral" in step 914 prior to returning to step 902. If the next request is a request to access the registration completion page, an example of which is shown in Figure 8, as detected by the web server in step 916, then the web server transmits the registration completion page to the requesting user in step 918 prior to returning to step 902. If the request corresponds to input of a mouse click to the input region 808 of the registration completion page shown in Figure 8, as detected by the web server in step 920, then the web server calls the routine "complete" in step 922 prior to returning to step 902. The web server may support many other different types of web pages and returned

information, and requests related to those many different types of web pages and returned information are handled in steps 924-927. The additional types of web pages and supplied information handled in steps 924-927 are beyond the scope of the current invention and will not be further discussed.

A flow-control diagram of the routine "register" is shown in Figure 10. This routine is invoked from step 908 of Figure 9 when the web server receives information supplied by a prospective customer in response to display on the provisional user's browser of the website registration page. First, in step 1002, the routine "register" employs a third-party address-verification resource, as described above, to determine whether the supplied address is valid and, when the supplied address is valid, to obtain a standardized address corresponding to the supplied address, as discussed above. If the third-party address-verification resource returns an indication that the supplied address is not valid, as detected by the routine "register" in step 1004, then the routine "register" returns to the user a bad address page in step 1006, an example of which is shown in Figure 3, and returns. Otherwise, the routine "register" retrieves a number of database entries in the registered user's database that also contain the standardized address returned by the third-party address-verification resource. Using the example registered users database described above, the number of entries including the standardized address can be obtained using the following SQL-like command:

```
SELECT    COUNT (*) FROM RegisteredUsers
WHERE     StandardizedAddress1 = "A" AND
          StandardizedAddress2 = "B"
```

where "A" and "B" represent the first and second lines of the returned standardized address. If the number of entries including the returned standardized address is greater than or equal to some maximum allowed number of registered users at a given standardized address, as detected by the routine "register" in step 1008, then the routine "register" returns to the prospective customer seeking registration an error page such as the error page displayed in Figure 4 in step 1010 and then returns. Otherwise, the routine "register" creates a new database entry for the prospective

customer and, by doing so, enters the prospective customer as a provisional user in the E-commerce organization website database. Using the example registered user's database shown above, the routine "register" may create the new entry using the following SQL-like command:

INSERT INTO RegisteredUsers

VALUES ("A", "B", "C", "D", "E", "F", "G", "H", "I", "mailing needed", "J", "K")

where A stands for a unique PIN generated by register for the provisional user, B stands for the first line of the standardized address returned by the address-verification resource, C stands for the second line of the standardized address returned by the address-verification resource, "mailing needed" is the value of the status field that indicates that the entry corresponds to a provisional user, and E-K stand for remaining information fields in the database entry, or row, of the above-described registered users relational table. Along with creation of a new PIN and database entry in step 1012, register additionally generates a login password, or loginID, that is also included within the new database entry. Finally, in step 1014, register transmits to the now provisional user a referral web page, such as the referral web page shown in Figure 5. Note that, in alternative embodiments, register may attempt many different types of additional verification. For example, register may attempt to determine whether supplied name information is well formed, whether or not supplied email addresses are verifiable, and may conduct other such information verification procedures.

Figure 11 shows a flow-control diagram for the routine "referral." The routine "referral" is called from step 912 of the high-level web server loop shown in Figure 9. First, in step 1102, the routine "referral" determines whether the provisional user has submitted the PIN of a referring registered user via text entry window 502 in the referral web page shown in Figure 5. If not, then all steps but the final step 1110 of the routine "referral" are omitted. If a PIN has been specified by the provisional user, then, in step 1104, the routine "referral" retrieves a database

entry from the registered users database corresponding to the supplied PIN. Retrieval of the database entry can be accomplished using the following SQL-like command, assuming the above-described registered users database:

```
SELECT    referral
FROM      Registered Users
WHERE     PIN = "A"
```

where "A" is the PIN supplied by the provisional user. If no entry is found in the registered user's database, as detected by referral in step 1106, then step 1108 is omitted. Otherwise, in step 1108, the routine "referral" increments the value of the returned referral field for the referring registered user, obtained using the above SQL-like command, and updates the referring registered user's database entry with the incremented referral number, using the following SQL-like command:

```
UPDATE    Registered Users
SET       referral = referral + 1
WHERE     PIN = "A"
```

where A is the PIN supplied by the provisional user. Finally, in step 1110, the routine "referral" transmits to the provisional user the final web page of the first part of the registration process, an example of which is shown in Figure 6.

Figure 12 is a flow-control diagram for the routine "complete." The routine "complete" is called in step 920 of the high-level web server iterative loop shown in Figure 9. The routine "complete" retrieves the database entry of the provisional user, in the current example using the following SQL-like command:

```
SELECT    FirstName, LastName, MI, City
FROM      Registered Users
WHERE     PIN = "A"
```

where "A" is the PIN supplied by the provisional user via text entry field 806 in the registration completion web page shown in Figure 8. If a database entry is not retrieved by the routine "complete," as detected in step 1204, then the routine

"complete" transmits an error page, in step 1206, indicating to the provisional user that a database entry was not found and that the registration process cannot be completed. Otherwise, in step 1208, the routine "complete" verifies that the identification information supplied by the provisional user in text entry fields 802-805 of the registration completion web page shown in Figure 8 corresponds to the identification information retrieved from the database via the above SQL-like command. If the supplied information does not correspond to the retrieved information, as detected by the routine "complete" in step 1210, then the routine "complete" transmits an error page, in step 1212, to inform the provisional user that a mistake has been made in supplying the identification information and, possibly, providing the provisional user with a second chance to properly complete the registration completion web page shown in Figure 8. Otherwise, in step 1214, the routine "complete" updates the database entry for the provisional user to indicate that the provisional user is now an active registered user using the following SQL-like command:

```
UPDATE      RegisteredUsers
SET         Status = "activated"
WHERE       PIN = "A"
```

At regular intervals, a mailer routine run either on the E-commerce web server or on an associated computer retrieves all entries in the database for provisional users and generates a postcard to send to the provisional user, as described above with reference to Figures 7A-B. A flow-control diagram for the routine "mailer" is shown in Figure 13. In step 1302, the routine "mailer" finds the entries of all provisional users in the registered users database using the following SQL-like command:

```
SELECT      FirstName, LastName, StreetAddress1, StreetAddress2, PIN
FROM        RegisteredUsers
WHERE       status = "mailing needed"
```

Then, in the loop represented by steps 1304-1306, the routine "mailer" uses the information in the database entries for the provisional users obtained by the above SQL-like command to prepare a postcard that is printed for each provisional user, and then uses the following SQL-like command to update the status of the provisional user to indicate that a postcard was sent to the provisional user:

```
UPDATE      RegisteredUsers
SET         status = "mailing sent"
WHERE       status = "mailing needed"
```

When provisional users receive postcards, they may access the URL provided in the postcard to complete the registration process, as described above. If the address to which a postcard is sent does not correspond to a valid address for a provisional user, if the provisional user has moved since completing the first portion of the registration process, or for any other reason that the postcard cannot be delivered by carrier-delivered mail to the provisional user, then the postcard is returned to the E-commerce company via return mail. Returned postcards are processed by the routine "process postcard." A flow control diagram for the routine "process postcards" is provided in Figure 14. Steps 1402-1404 comprise a loop in which each returned postcard is examined to obtain the PIN associated with the provisional user to which the postcard was mailed and the status field of the database entry corresponding to the PIN is updated, via an SQL-like command similar to the above SQL-like command, to the status "mailed failed."

The method and system of the present invention may employ additional routines and process to monitor and maintain the registered user's database. For example, a routine may periodically run to purge all database entries having status "mailing failed," returning the PINs in ourged database entries to a pool of available PINs for future registered users. A monitoring process may also monitor the registered user's database to identify stale or inactive registered users to which an additional postcard may be sent to verify the registered user's current status or whose database entries may be purged from the database. As described above, the referral field of the database entry is incremented for a registered user whose PIN is supplied

by a provisional user during the registration process. A registered user may access a status web page to determine how many referral credits the registered user has received, and may access additional web pages in order to obtain a financial reward, or other business-related reward, corresponding to the number of referrals received since the registered user last received a reward. Only registered users having the status "active" can be credited for referrals and only registered users having the status "active" can access the E-commerce website in order to determine their referral status and to apply for referral rewards.

Although the present invention has been described in terms of a particular embodiment, it is not intended that the invention should be limited to this embodiment. Modifications within the spirit of the invention will be apparent to those skilled in the art. For example, alternative embodiments may employ information exchange methods with provisional users other than carrier-delivered mail in order to verify the provisional user's identification information. Alternative methods of information and exchange may include email, telephone calls, or other such information exchange technologies. Many different numbers and types of web pages may be employed by an E-commerce organization to implement the verification process of the present method and system described above. The computer routines that server web pages, prepare postcards, process returned postcards, and carry out other tasks described above may be implemented in an almost limitless number of different ways using many different programming languages, modular organizations, data structures, and databases for execution of many different types of operating systems and computer hardware. Moreover, many different types of registration criteria, other than mailing address, may be verified during the registration process.

The foregoing description, for purposes of explanation, used specific nomenclature to provide a thorough understanding of the invention. However, it will be apparent to one skilled in the art that the specific details are not required in order to practice the invention. In other instances, well-known components are shown in block diagram form in order to avoid unnecessary distraction from the underlying invention. Thus, the foregoing descriptions of specific embodiments of the present invention are presented for purposes of illustration and description; they

are not intended to be exhaustive or to limit the invention to the precise forms disclosed, obviously many modifications and variations are possible in view of the above teachings. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications and to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the following claims and their equivalents:

CLAIMS

1. A method for registering users with an electronic commerce organization, the method comprising:

electronically receiving a completed registration form from a prospective customer via a first electronic communications medium;

extracting address information from the completed registration form;

verifying that the extracted address information is a valid address; and

when the extracted address information is a valid address,

generating a standardized address from the extracted address information;

checking that less than a maximum allowable number of registered users have registered with the standardized address; and

when less than a maximum allowable number of registered users have registered with the standardized address,

electronically transmitting an intermediate message to the prospective customer via the first electronic communications medium and storing information that identifies the prospective customer as a provisional user;

sending a postcard to the provisional user by a second communication medium, the postcard including a personal identification number and an access address;

receiving a request from the prospective customer via the access address and the first electronic communications medium for completion of registration; and

storing information that identifies the prospective customer as an active user following receipt of the request for completion of registration.

2. The method of claim 1 wherein electronically receiving a completed registration form from a prospective customer via a first electronic communications medium further includes:

receiving a request for a registration form via the first electronic communications medium from the prospective customer;

transmitting a registration form via the first electronic communications medium to the prospective customer; and

subsequently receiving the completed registration form from the prospective customer via the first electronic communications medium;

3. The method of claim 1 wherein the first electronic communications medium is an internet connection and wherein the registration form is a computer-readable file.

4. The method of claim 1 wherein the address information extracted from the completed registration form comprises one of:

a postal address;

a telephone number; and

an electronic address related to a second communications medium.

5. The method of claim 1 wherein verifying that the extracted address information is a valid address further comprises forwarding the extracted address information to an address verification service that accesses an electronic database to determine whether or not the extracted address is a currently valid address.

6. The method of claim 1 wherein checking that less than a maximum allowable number of registered users have registered with the standardized address further includes accessing an electronic database to retrieve a list of all registered customers having the standardized address in a corresponding database entry.

7. The method of claim 1 wherein receiving a request from the prospective customer via the access address and the first electronic communications medium for completion of registration and storing information that identifies the prospective customer

as an active user following receipt of the request for completion of registration further includes:

receiving a request from the prospective customer via the access address for a registration completion form;

transmitting to the prospective customer a registration completion form

extracting an identification number from the request via first electronic communications medium;

receiving from the prospective customer a completed registration completion form;

extracting from the completed registration completion form an identification number;

when the identification number matches the personal identification number,

storing information that identifies the prospective customer as an active user following receipt of the request for completion of registration.

8. A method for verifying the legitimacy of a first communicating entity accessing a second communicating entity via a first electronic communications medium, the method comprising:

receiving information by the second communicating entity identifying the first communicating entity via the first electronic communications medium;

carrying out by the second communicating entity a first verification procedure to verify that the received information identifying the first communicating entity is valid;

when the first verification procedure verifies that the received information is valid,

transmitting by the second communicating entity to the first communicating entity via a second communications medium an entity identification number and an electronic access address;

receiving by the second communicating entity from the first communicating entity at the electronic access address additional information, including an identification number; and

when the identification number matches the entity identification number during a second verification procedure, identifying, by the second communicating entity, the first communicating entity as a legitimate communicating entity.

9. The method of claim 8 wherein the first communicating entity is a user of a computer, the second communicating entity is a world wide web server, and the first electronic communications medium is an internet.

10. The method of claim 8 wherein the information identifying the first communicating entity includes an address accessible via the second communications medium and wherein the first verification procedure verifies that the address is a valid address with respect to the second communications medium.

11. The method of claim 10 wherein the second communications medium is one of:

surface mail;
air mail;
a telephone system;
a second internet;
an intranet; and
a courier service.

12. The method of claim 8 wherein the electronic access address transmitted by the second communicating entity to the first communicating entity via a second communications medium relates to a second electronic communications medium.

13. The method of claim 8 wherein the electronic access address transmitted by the second communicating entity to the first communicating entity via a second communications medium relates to the first electronic communications medium.

14. An electronic prospective customer verification system comprising:

a server that receives a completed registration form from a prospective customer that includes an address;

a first electronic communications medium interconnecting the server with the prospective customer;

a second communications medium to which the address is directed, through which the server transmits to the potential customer an identification number and electronic communications medium address; and

a database in which the server stores information from the completed registration that identifies the potential customer, including the address, along with the identification number, and which the server accesses in order to retrieve the identification number to compare the retrieved identification number with an identification received from the prospective customer via electronic communications medium address in order to verify that the prospective customer is a valid prospective customer.

15. The electronic prospective customer verification system of claim 14 wherein the server is a world wide web page server and the first electronic communications medium is an internet.

16. The electronic prospective customer verification system of claim 14 wherein the second communications medium is one of:

surface mail;

air mail;

a telephone system;

a second internet;

an intranet; and

a courier service.

17. The electronic prospective customer verification system of claim 14 wherein the server verifies the address included in the completed registration form prior to

transmitting to the potential customer an identification number and electronic communications medium address.

18. The electronic prospective customer verification system of claim 14 wherein the database includes an entry corresponding to the prospective customer that includes the prospective customer's:

name;

identification number; and

second communications address.

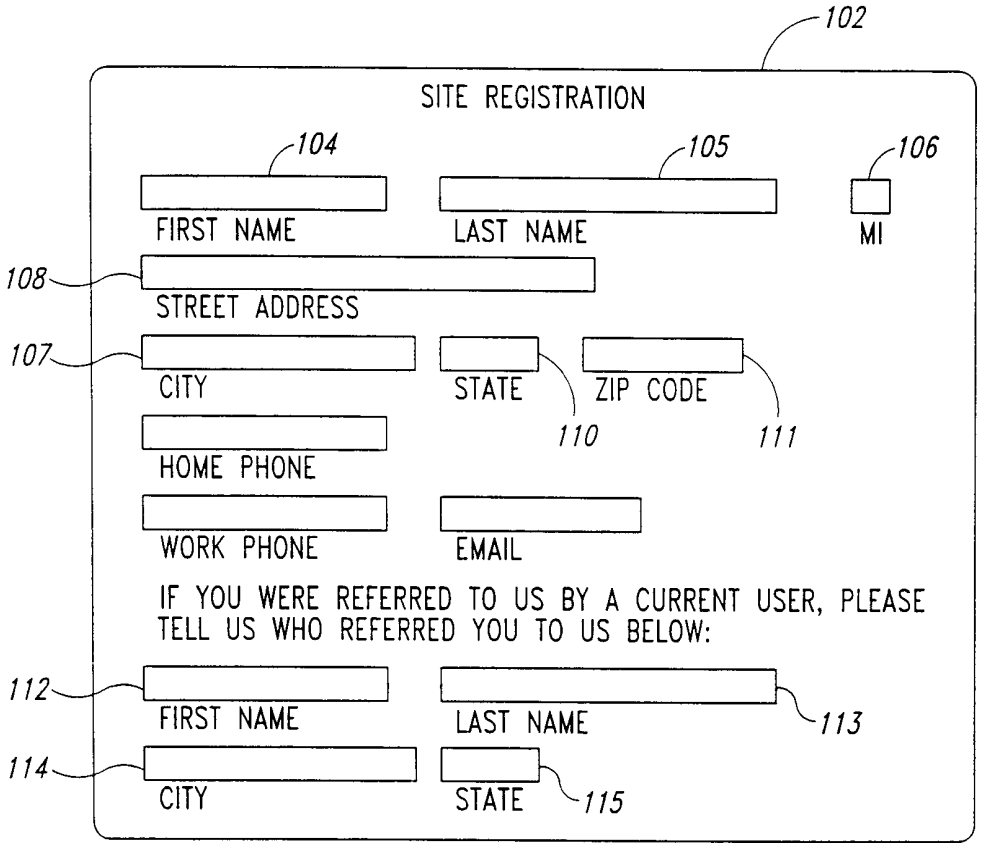

102
SITE REGISTRATION
104
105
106
FIRST NAME
LAST NAME
MI
108
STREET ADDRESS
107
CITY
STATE
ZIP CODE
110
111
HOME PHONE
WORK PHONE
EMAIL
IF YOU WERE REFERRED TO US BY A CURRENT USER, PLEASE TELL US WHO REFERRED YOU TO US BELOW:
112
FIRST NAME
LAST NAME
113
114
CITY
STATE
115

Fig. 1

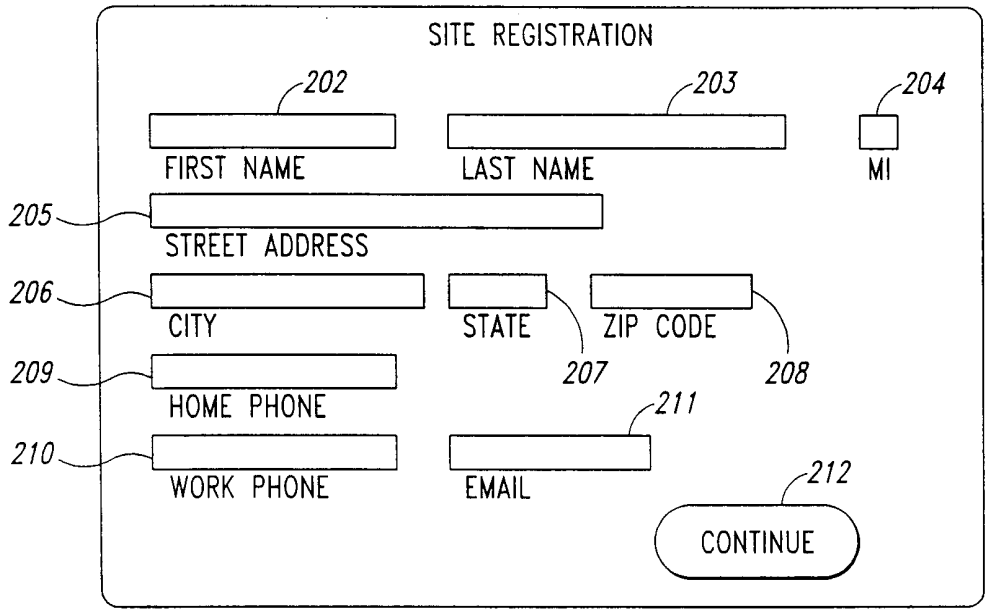

SITE REGISTRATION
202
203
204
FIRST NAME
LAST NAME
MI
205
STREET ADDRESS
206
CITY
STATE
ZIP CODE
207
208
209
HOME PHONE
211
210
WORK PHONE
EMAIL
212
CONTINUE

Fig. 2

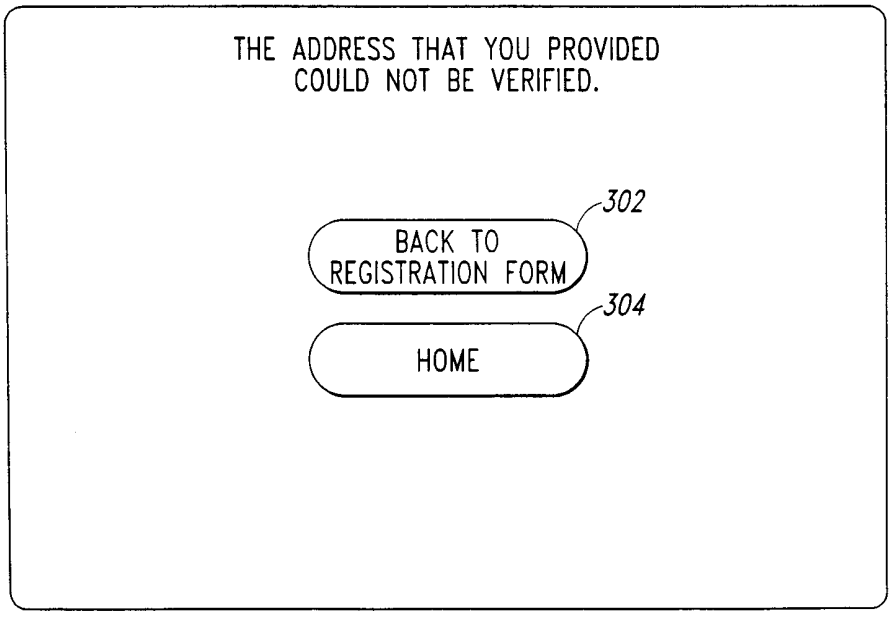

THE ADDRESS THAT YOU PROVIDED
COULD NOT BE VERIFIED.
302
BACK TO
REGISTRATION FORM
304
HOME

Fig. 3

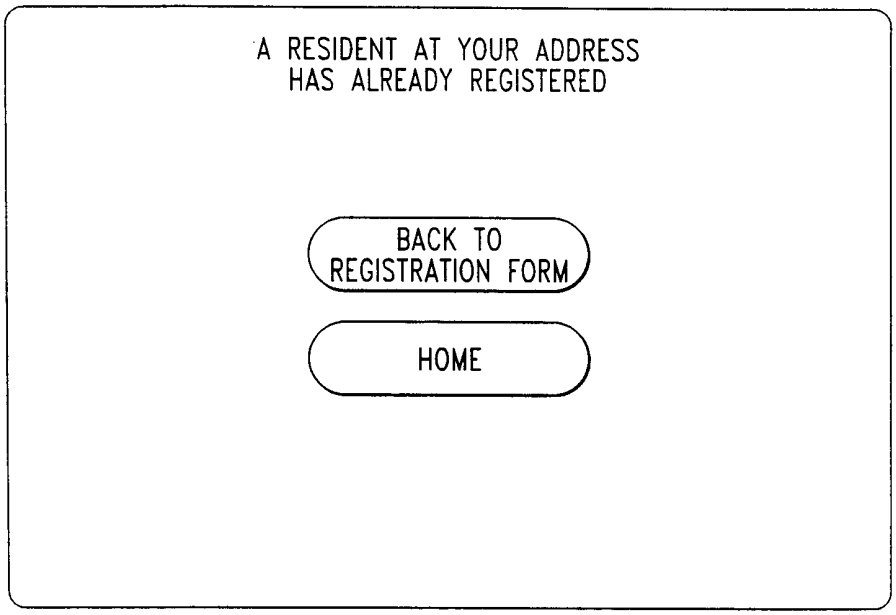

A RESIDENT AT YOUR ADDRESS
HAS ALREADY REGISTERED
BACK TO
REGISTRATION FORM
HOME

Fig. 4

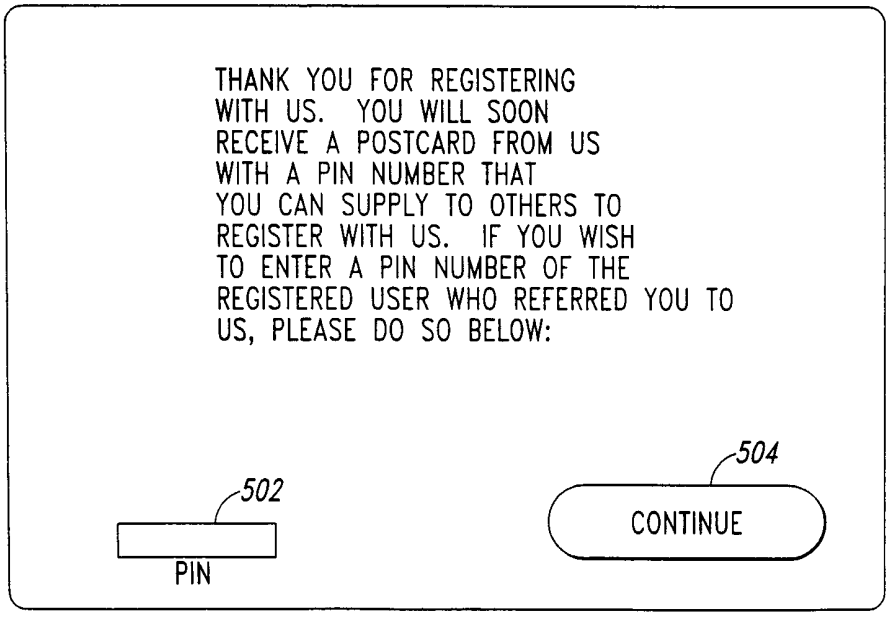

THANK YOU FOR REGISTERING
WITH US. YOU WILL SOON
RECEIVE A POSTCARD FROM US
WITH A PIN NUMBER THAT
YOU CAN SUPPLY TO OTHERS TO
REGISTER WITH US. IF YOU WISH
TO ENTER A PIN NUMBER OF THE
REGISTERED USER WHO REFERRED YOU TO
US, PLEASE DO SO BELOW:
502
PIN
504
CONTINUE

Fig. 5


YOUR SITE LOGIN PASSWORD IS:
JSMITH861A
HOME

Fig. 6

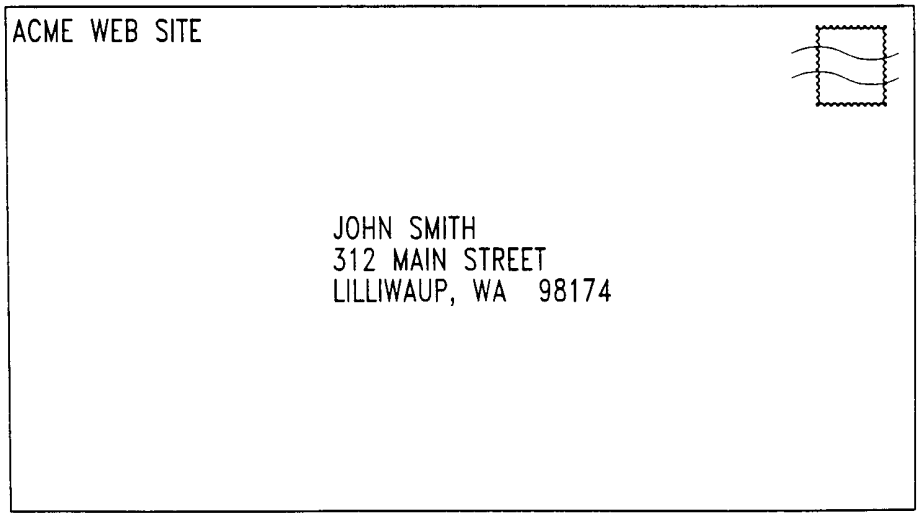

ACME WEB SITE
JOHN SMITH
312 MAIN STREET
LILLIWAUP, WA 98174

Fig. 7A

THANK YOU FOR REGISTERING WITH ACME.
HERE IS YOUR NEW PIN:

8163AC21

PLEASE COMPLETE THE REGISTRATION PROCESS BY USING YOUR BROWSER TO GO TO

WWW.ACME.COM/NEW USER

ONCE REGISTRATION IS COMPLETE, YOU CAN RECEIVE BIG $ BY REFERRING OTHERS TO ACME AND HAVING THEM PROVIDE YOUR PIN TO US DURING REGISTRATION

Fig. 7B

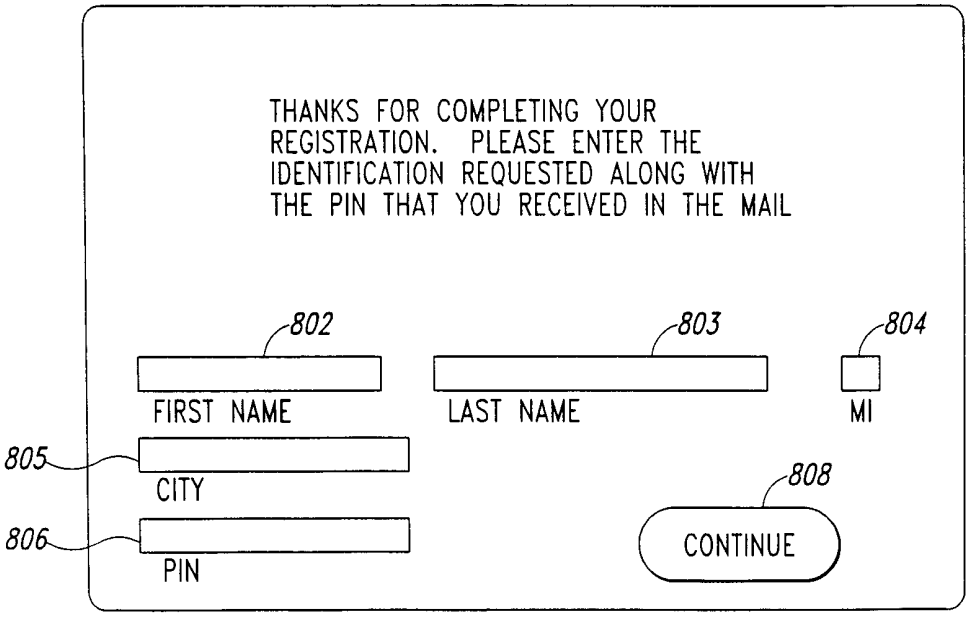
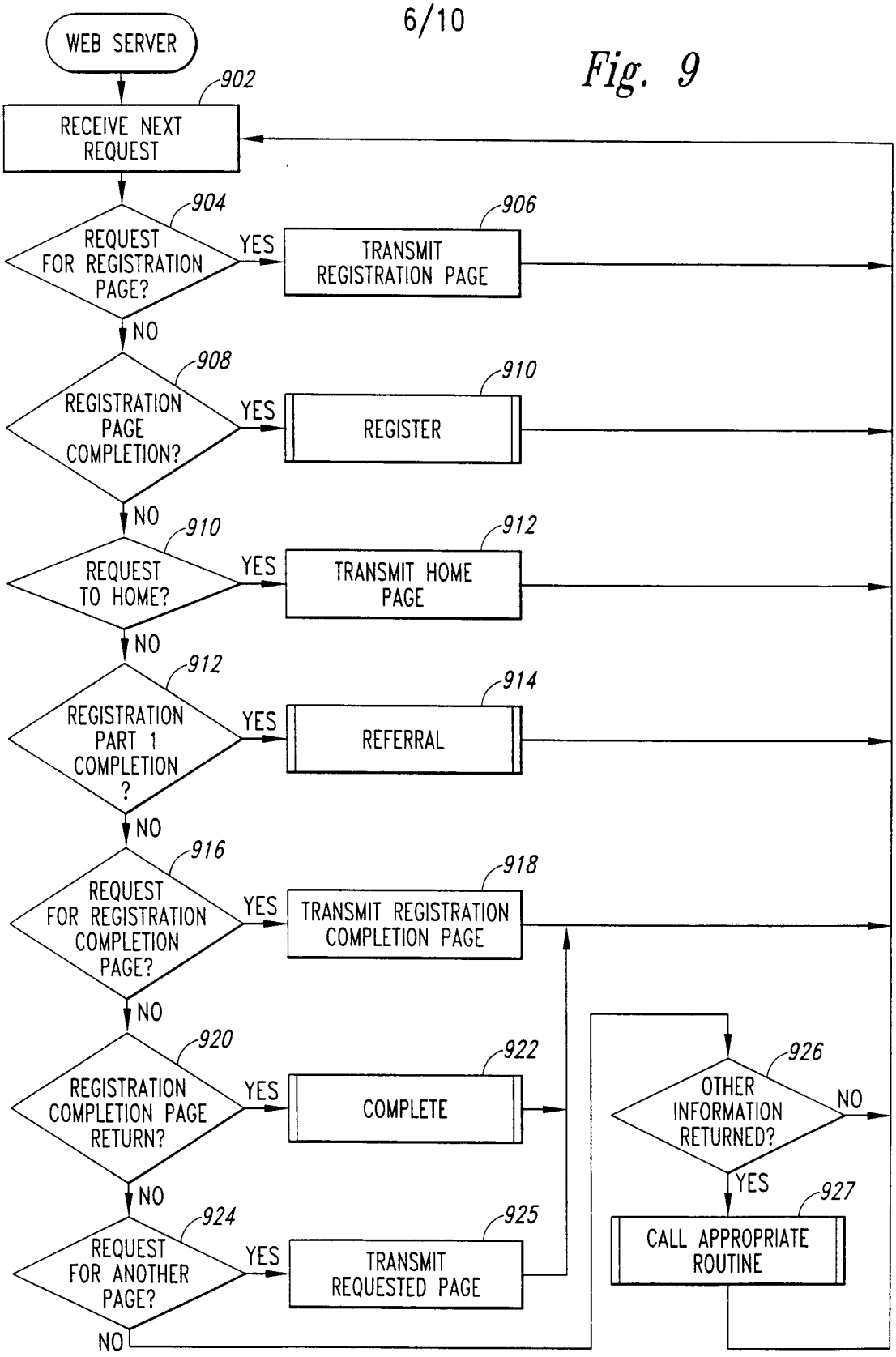


Fig. 8

Fig. 9


WEB SERVER
902
RECEIVE NEXT REQUEST
904
REQUEST FOR REGISTRATION PAGE?
YES
906
TRANSMIT REGISTRATION PAGE
NO
908
REGISTRATION PAGE COMPLETION?
YES
910
REGISTER
NO
910
REQUEST TO HOME?
YES
912
TRANSMIT HOME PAGE
NO
912
REGISTRATION PART 1 COMPLETION ?
YES
914
REFERRAL
NO
916
REQUEST FOR REGISTRATION COMPLETION PAGE?
YES
918
TRANSMIT REGISTRATION COMPLETION PAGE
NO
920
REGISTRATION COMPLETION PAGE RETURN?
YES
922
COMPLETE
NO
924
REQUEST FOR ANOTHER PAGE?
YES
925
TRANSMIT REQUESTED PAGE
NO
926
OTHER INFORMATION RETURNED?
NO
YES
927
CALL APPROPRIATE ROUTINE

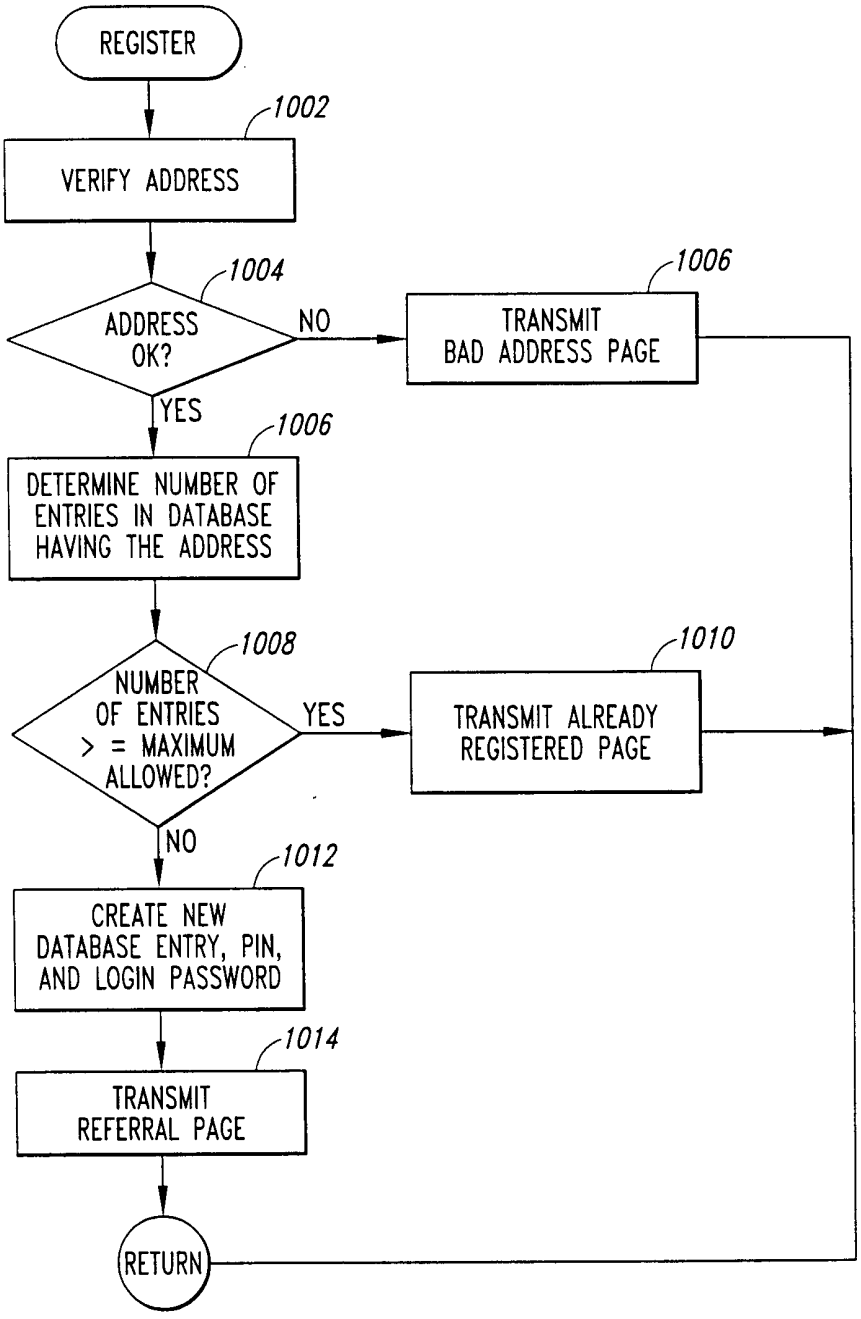

REGISTER
1002
VERIFY ADDRESS
1004
ADDRESS OK?
NO
1006
TRANSMIT BAD ADDRESS PAGE
YES
1006
DETERMINE NUMBER OF ENTRIES IN DATABASE HAVING THE ADDRESS
1008
NUMBER OF ENTRIES > = MAXIMUM ALLOWED?
YES
1010
TRANSMIT ALREADY REGISTERED PAGE
NO
1012
CREATE NEW DATABASE ENTRY, PIN, AND LOGIN PASSWORD
1014
TRANSMIT REFERRAL PAGE
RETURN

Fig. 10

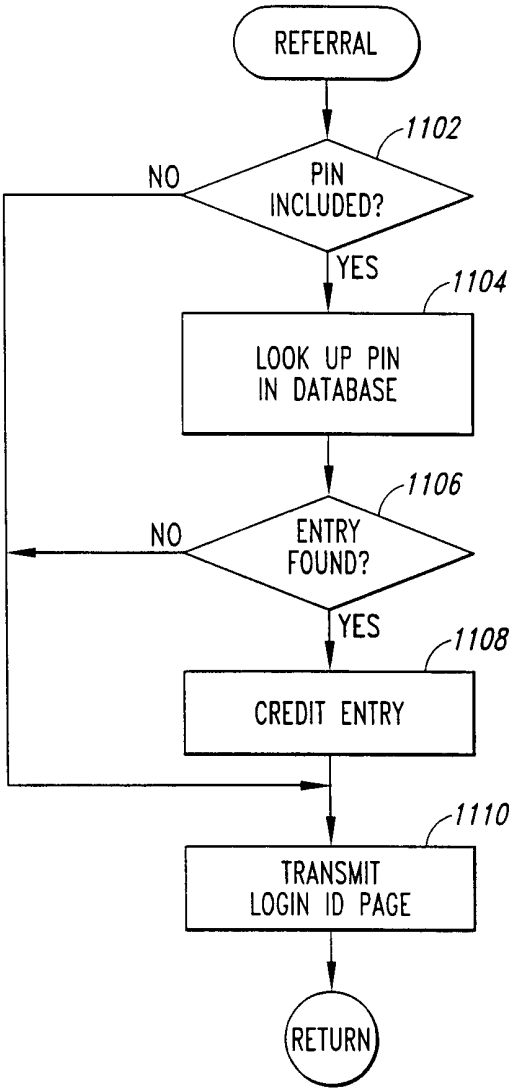

REFERRAL
1102
PIN INCLUDED?
NO
YES
1104
LOOK UP PIN IN DATABASE
1106
ENTRY FOUND?
NO
YES
1108
CREDIT ENTRY
1110
TRANSMIT LOGIN ID PAGE
RETURN

Fig. 11

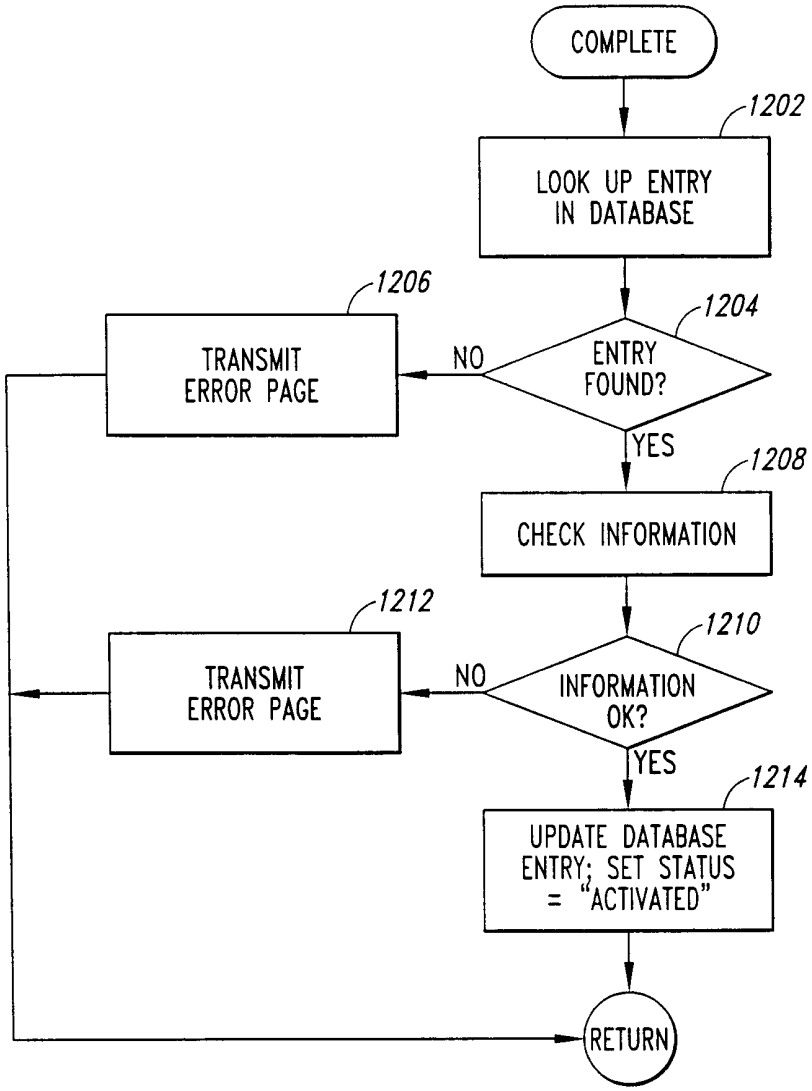

COMPLETE
1202
LOOK UP ENTRY IN DATABASE
1204
ENTRY FOUND?
NO
1206
TRANSMIT ERROR PAGE
YES
1208
CHECK INFORMATION
1210
INFORMATION OK?
NO
1212
TRANSMIT ERROR PAGE
YES
1214
UPDATE DATABASE ENTRY; SET STATUS = "ACTIVATED"
RETURN

Fig. 12

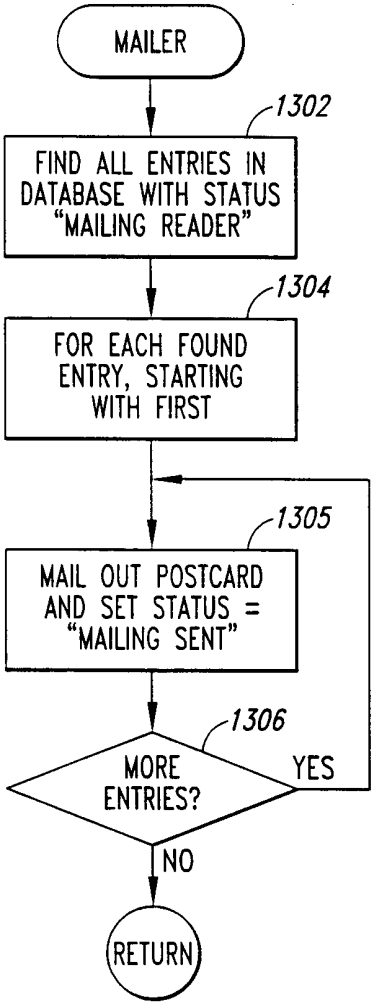

MAILER
1302
FIND ALL ENTRIES IN DATABASE WITH STATUS "MAILING READER"
1304
FOR EACH FOUND ENTRY, STARTING WITH FIRST
1305
MAIL OUT POSTCARD AND SET STATUS = "MAILING SENT"
1306
MORE ENTRIES?
YES
NO
RETURN

Fig. 13

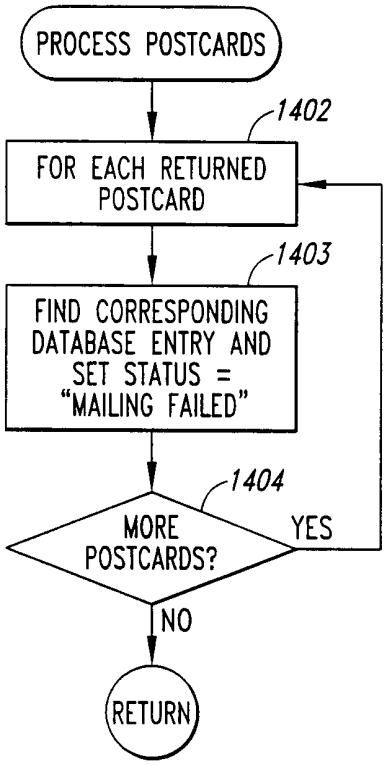

PROCESS POSTCARDS
1402
FOR EACH RETURNED POSTCARD
1403
FIND CORRESPONDING DATABASE ENTRY AND SET STATUS = "MAILING FAILED"
1404
MORE POSTCARDS?
YES
NO
RETURN

Fig. 14