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(54) **METHOD AND APPARATUS FOR REAL TIME ONLINE CREDIT APPROVAL**

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(57) **ABSTRACT**

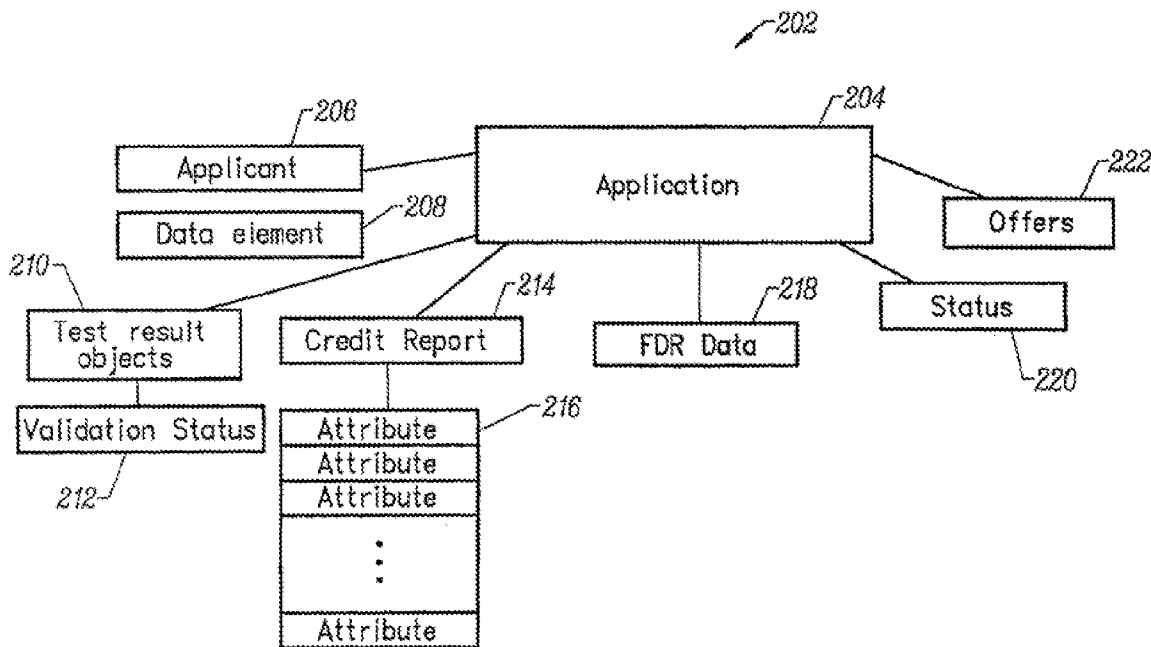
(21) Appl. No.: **13/458,328**

A system and method are described for providing real time approval of credit over a network. The method includes obtaining applicant data from an applicant. The applicant data is analyzed into a form suitable for directly obtaining a credit report from a credit bureau for the applicant. A credit report having credit report data is obtained from a credit bureau for the applicant. It is then determined whether to accept the applicant using the credit report data and it is communicated to the applicant that the applicant has been approved.

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**Related U.S. Application Data**

(63) Continuation of application No. 11/932,498, filed on Oct. 31, 2007, now abandoned, which is a continuation of application No. 10/901,715, filed on Jul. 28, 2004, now abandoned, which is a continuation of application



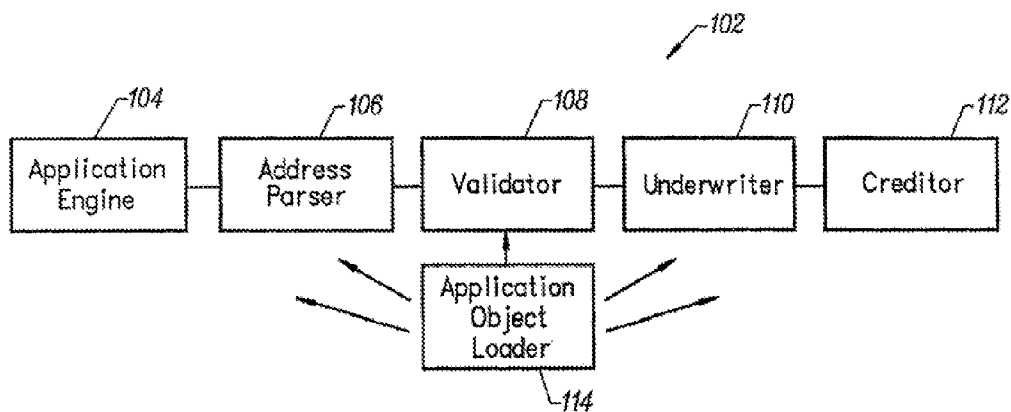


Fig.1

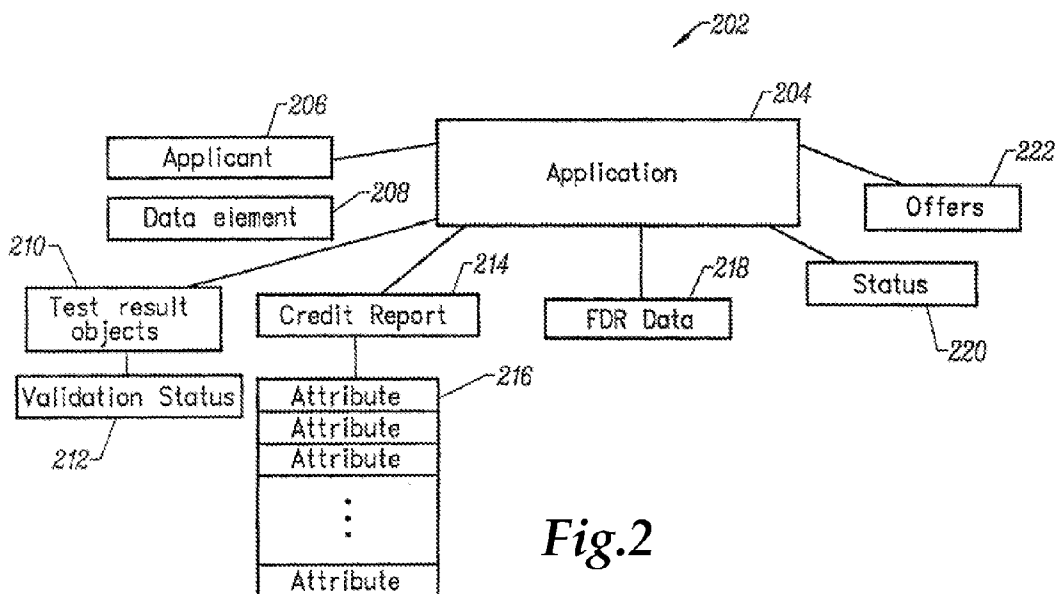


Fig.2

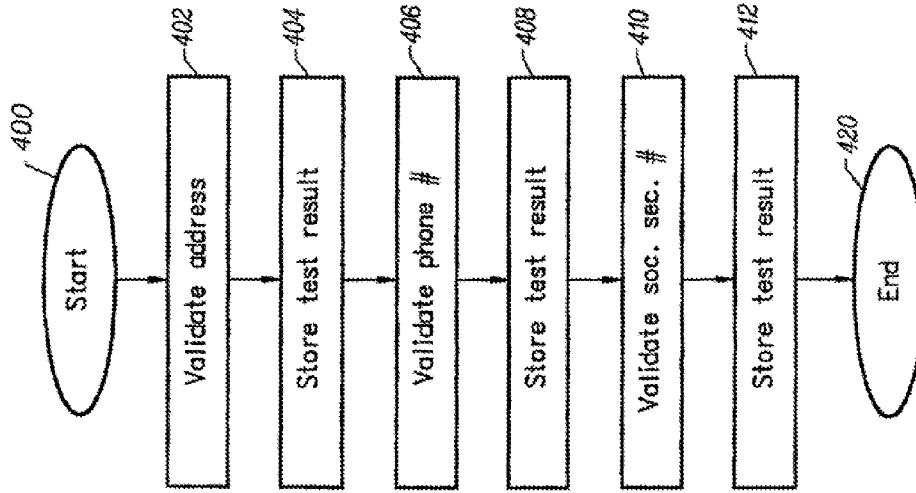


Fig.4A

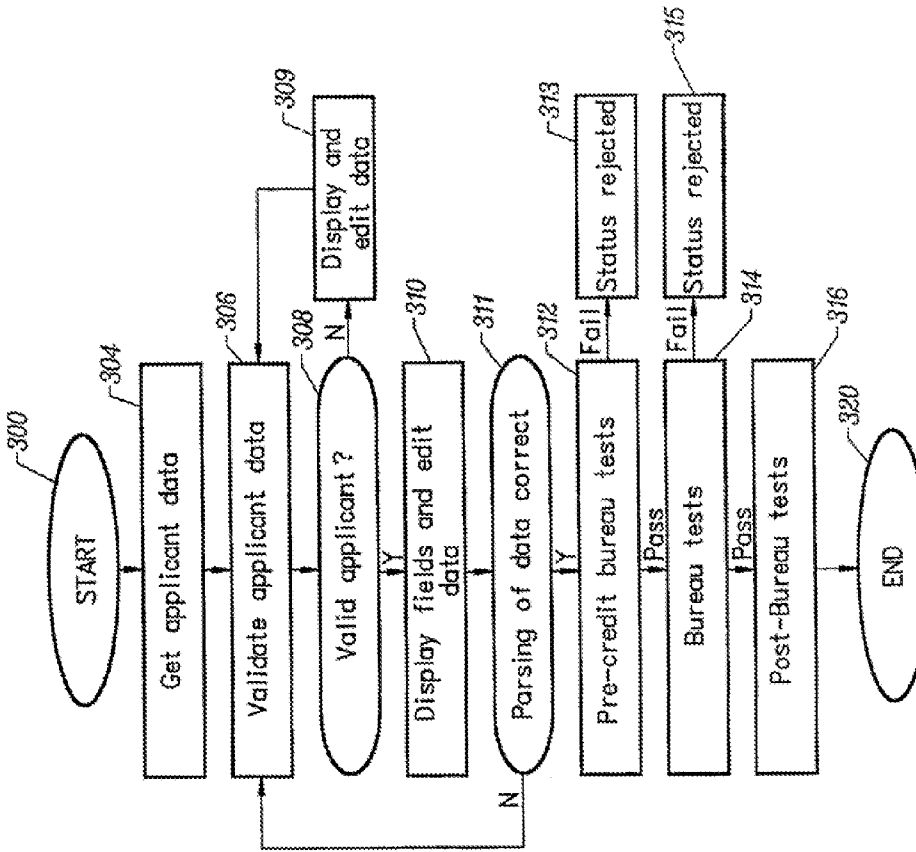


Fig.3

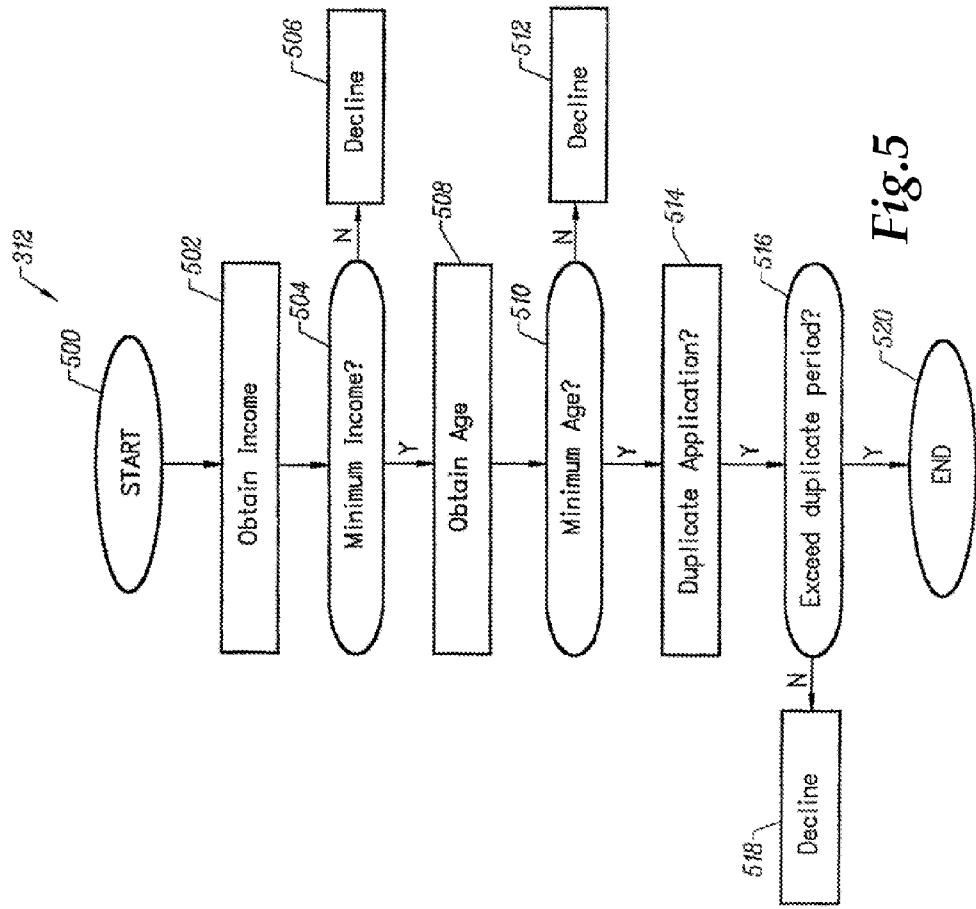


Fig.5

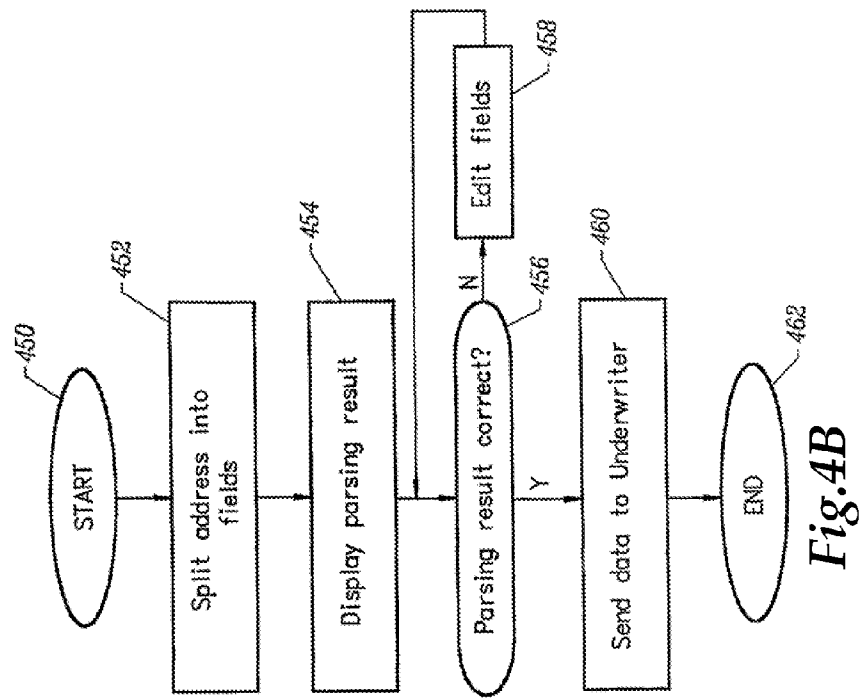


Fig.4B

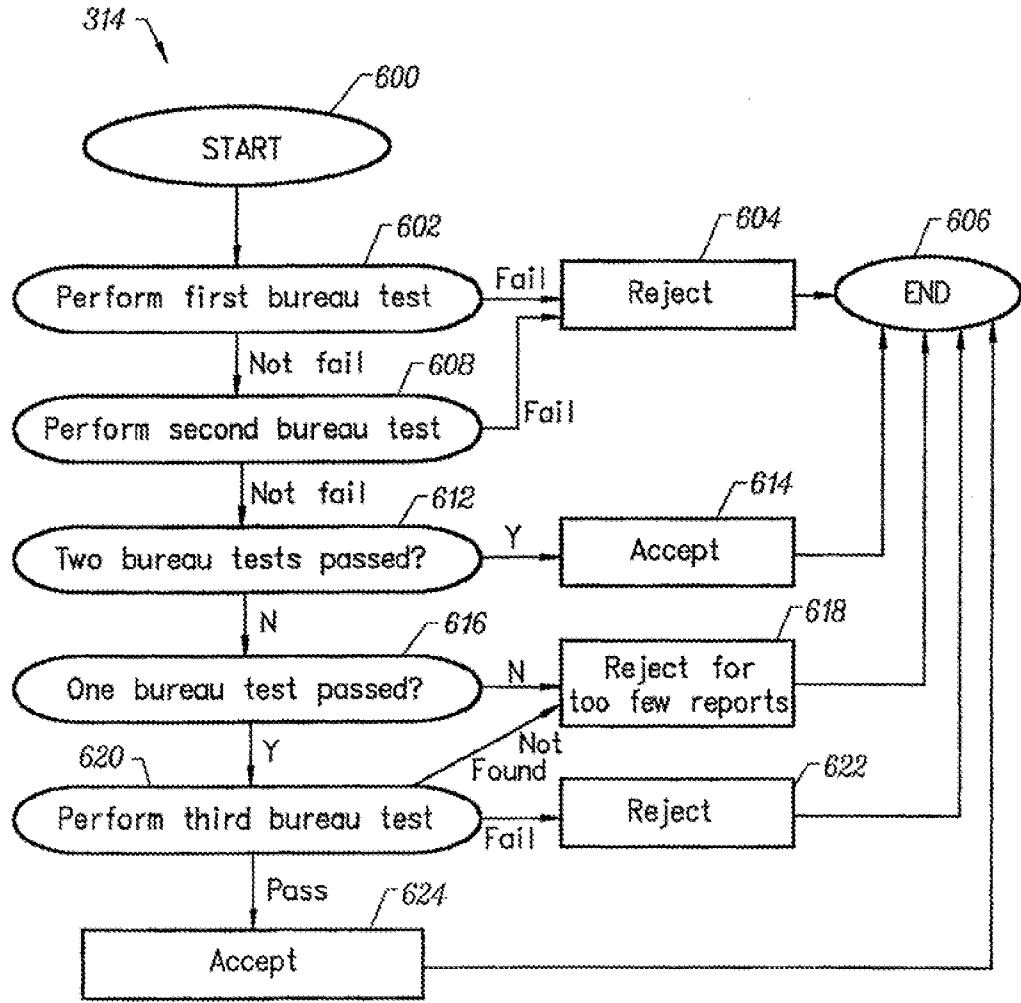


Fig.6A

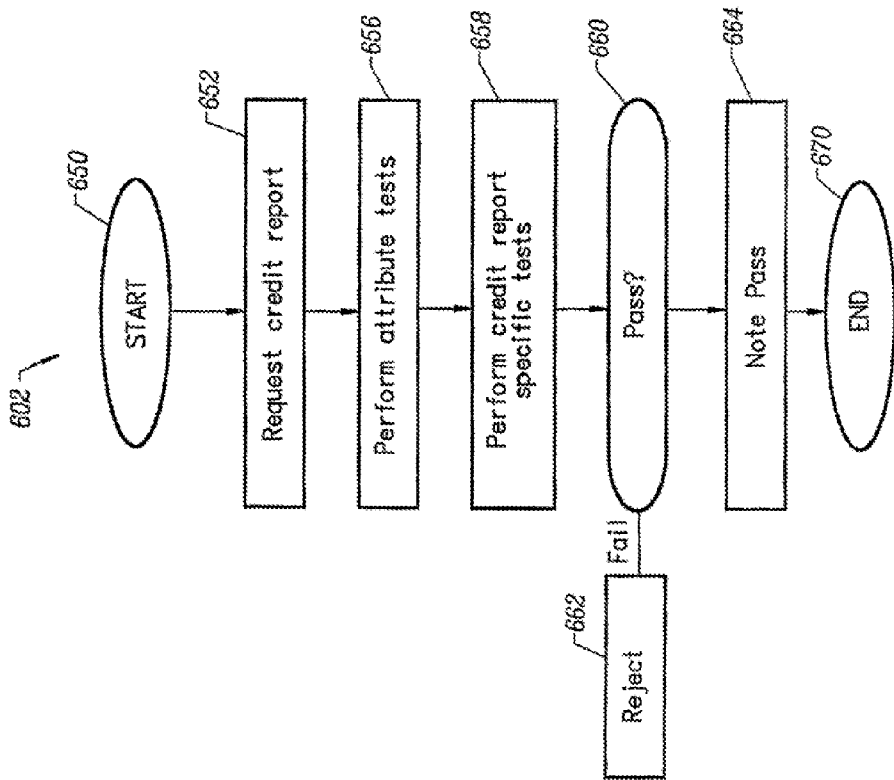


Fig.6B

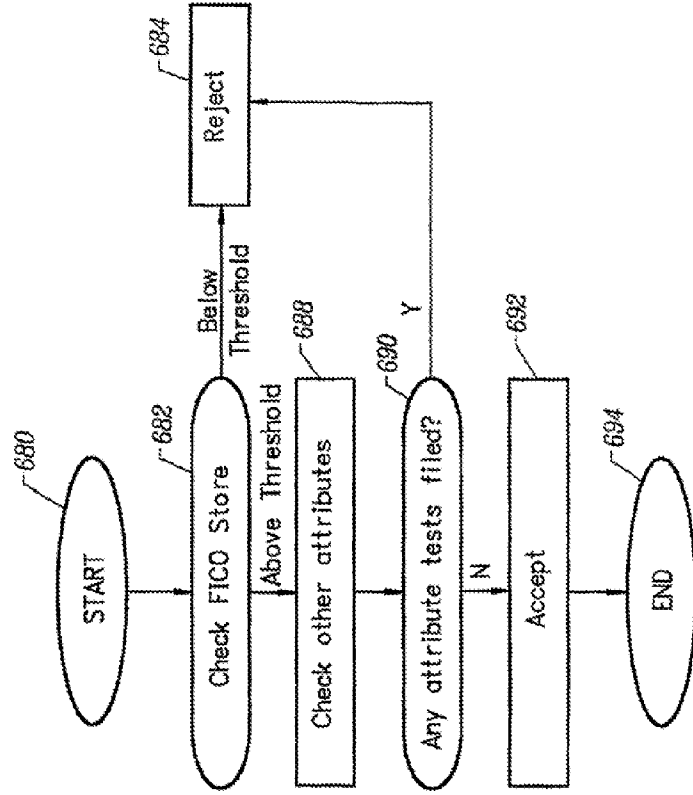


Fig.6C

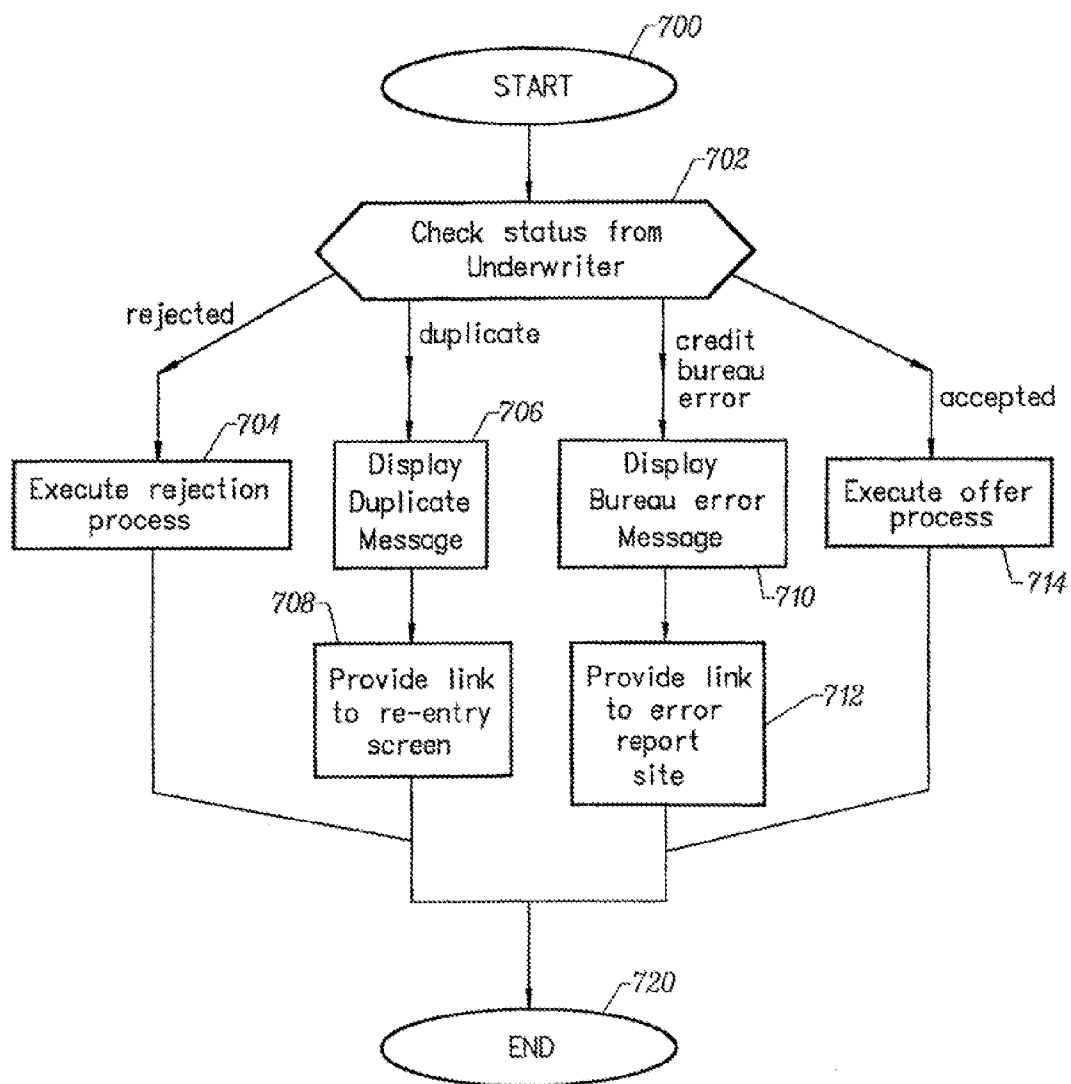


Fig.7

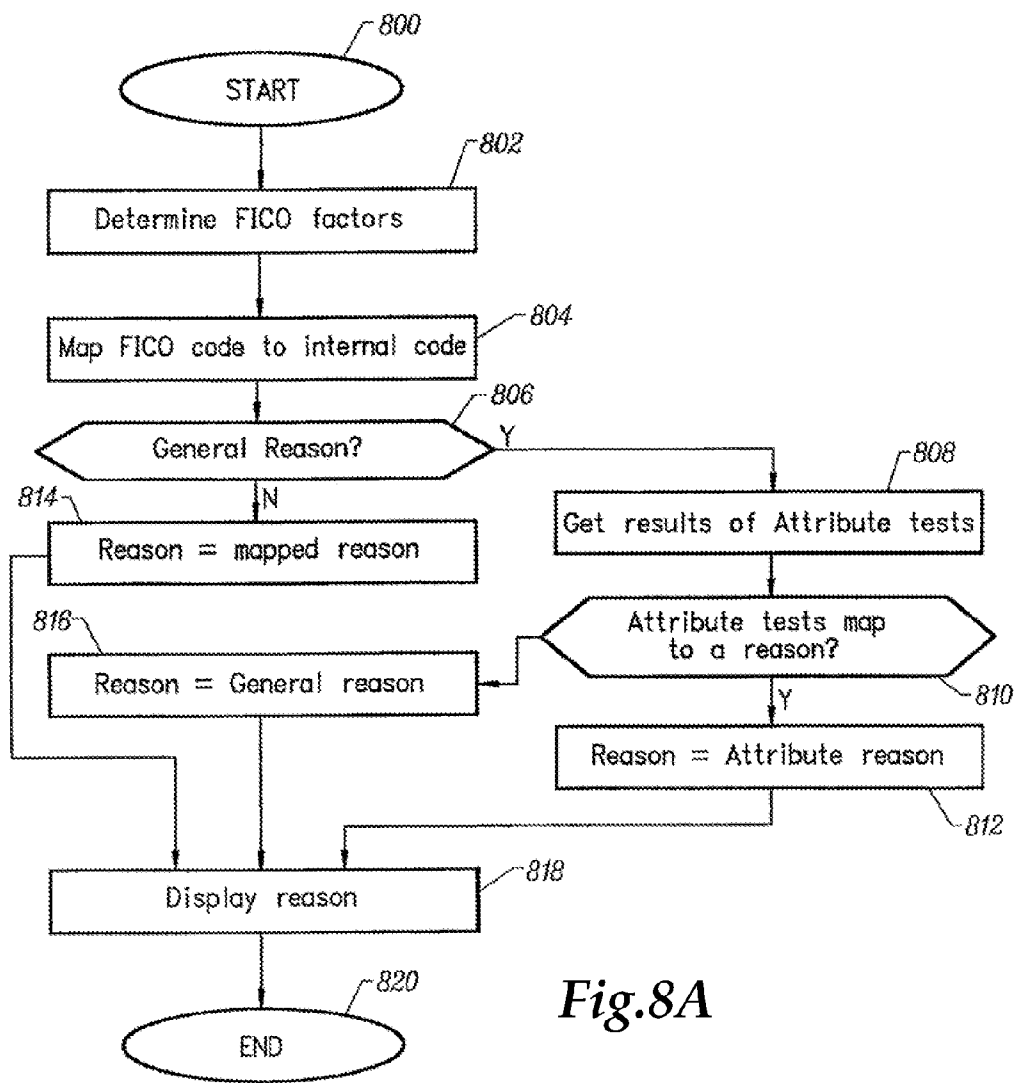


Fig.8A



External Code	Internal Code	Internal decline reason
E1	I1	General reason
E2	I1	General reason
E3	I1	General reason
E4	I4	Specific reason
E5	I5	Specific reason

*Fig.8B*

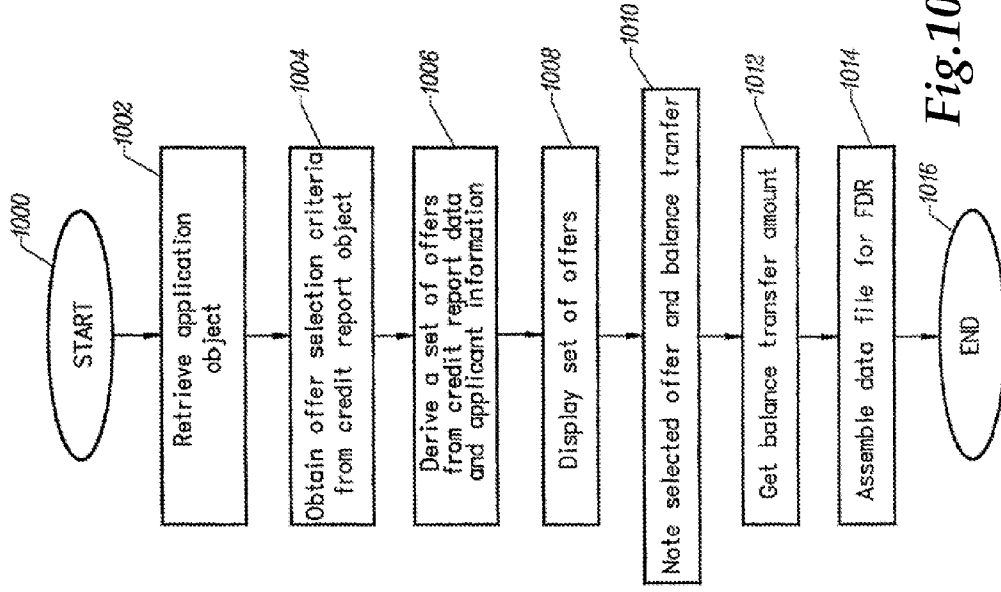


Fig. 10A

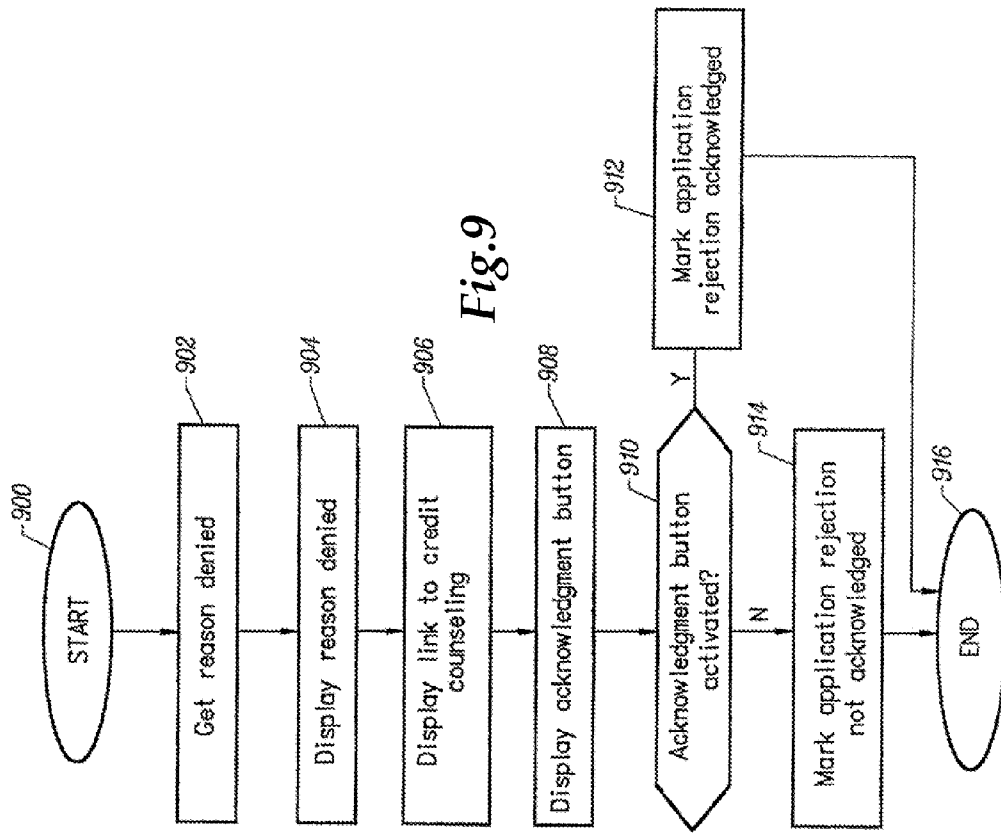


Fig. 9

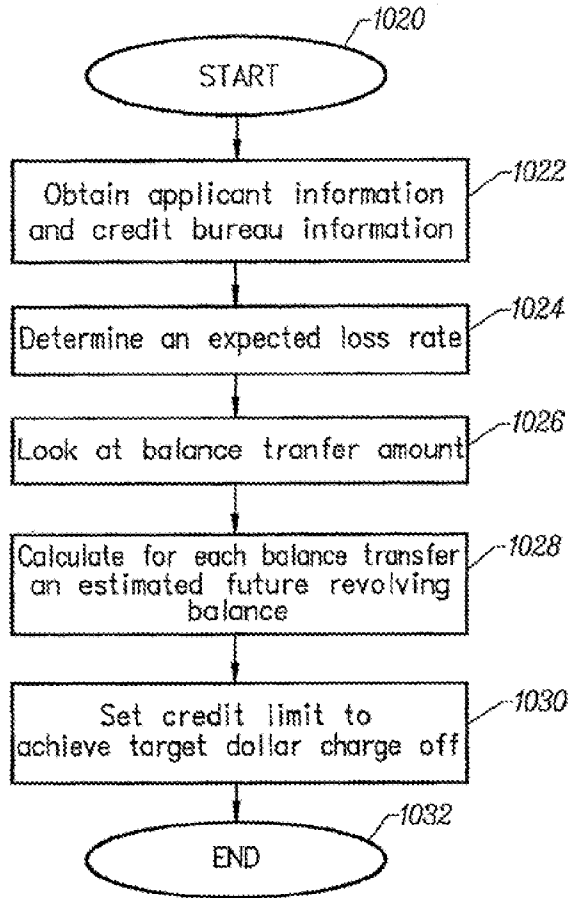


Fig.10B

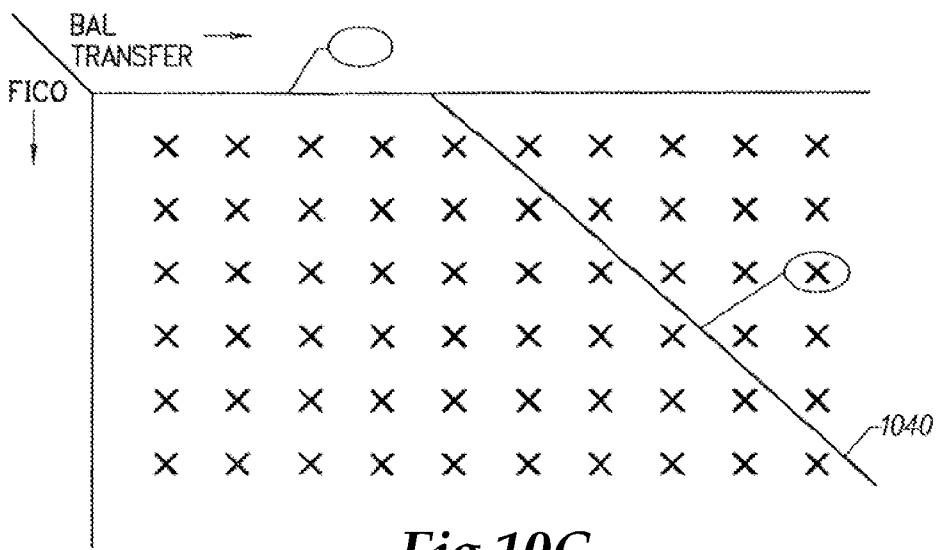


Fig.10C

1108 FICO range	1110 Income range	1112 Balance Transfer	1114 Offer 1	1116 Offer 2	1118 Offer 3	1120 Offer 4
500-550	40,000-45,000	1000	Link1	Link2	Link3	Link4
551-600	35,000-40,000	750	Link1	Link2	Link3	Link4
601-650	46,000-50,000	500	Link1	Link2	Link3	Link4
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.

Fig.11

1204	1214 Rate	1216 Annual Fee	1218 Credit Limit	1220 Required Balance Transfer
1202 Offer 1	5.9%	0	20,000	12,000
1206 Offer 2	6.9%	0	15,000	8,000
1208 Offer 3	8.9%	0	10,000	4,000
1210 Offer 4	14.9%	20	5,000	0

Fig.12

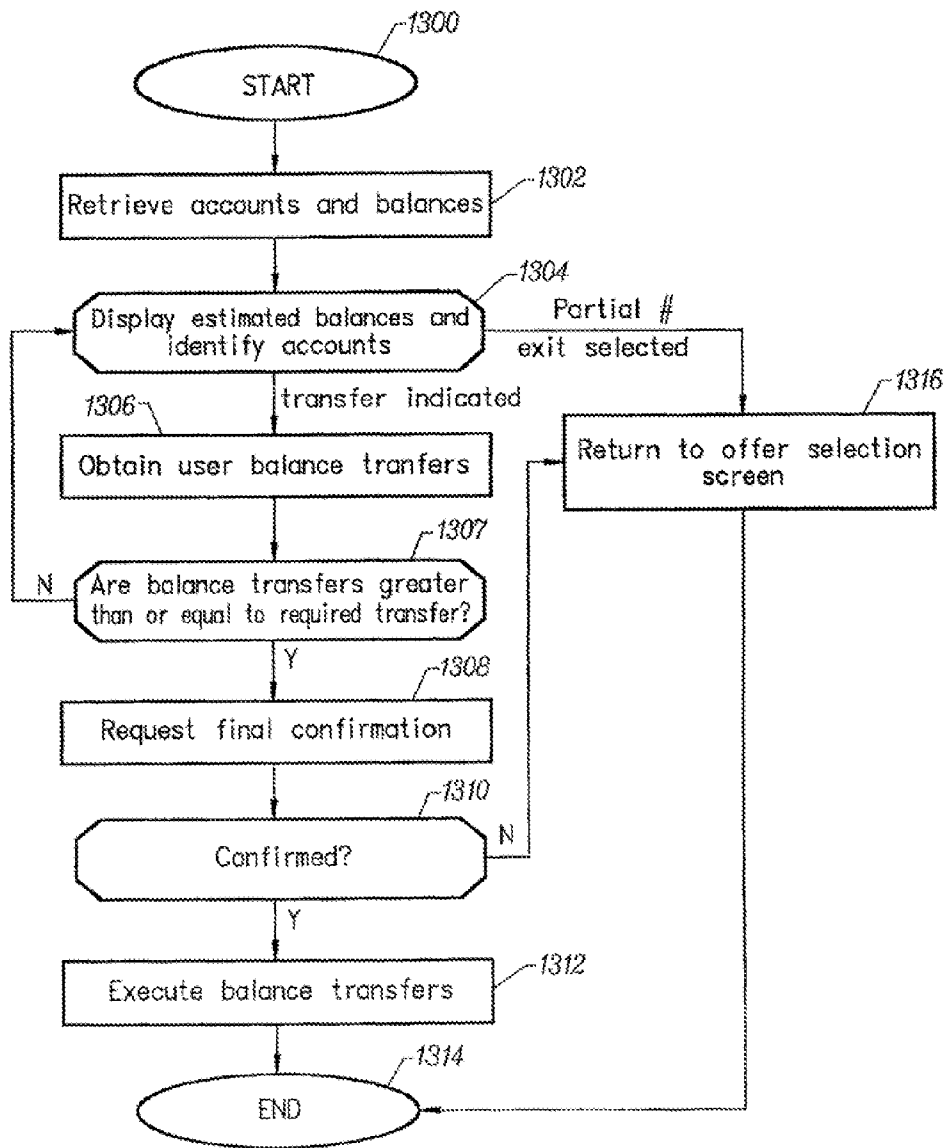
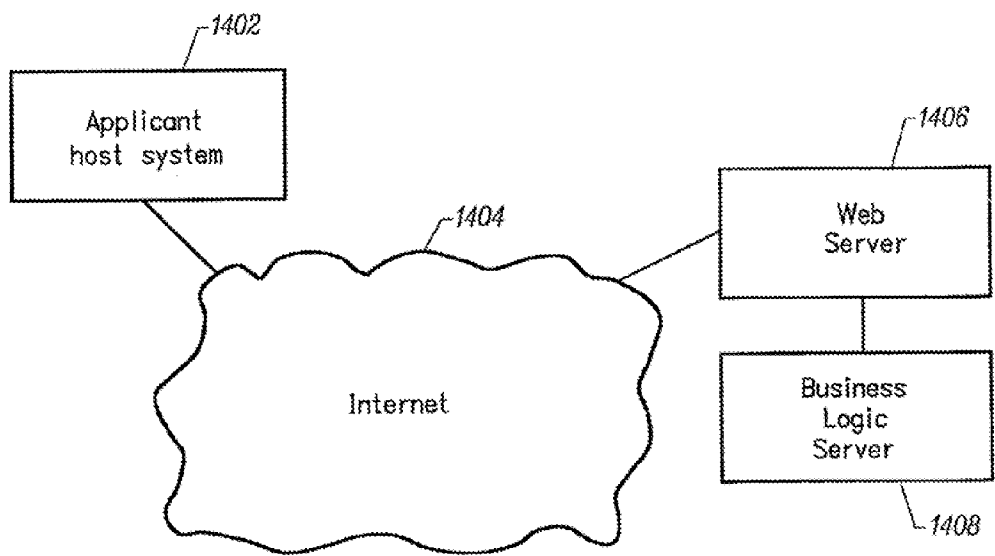


Fig.13



*Fig.14*

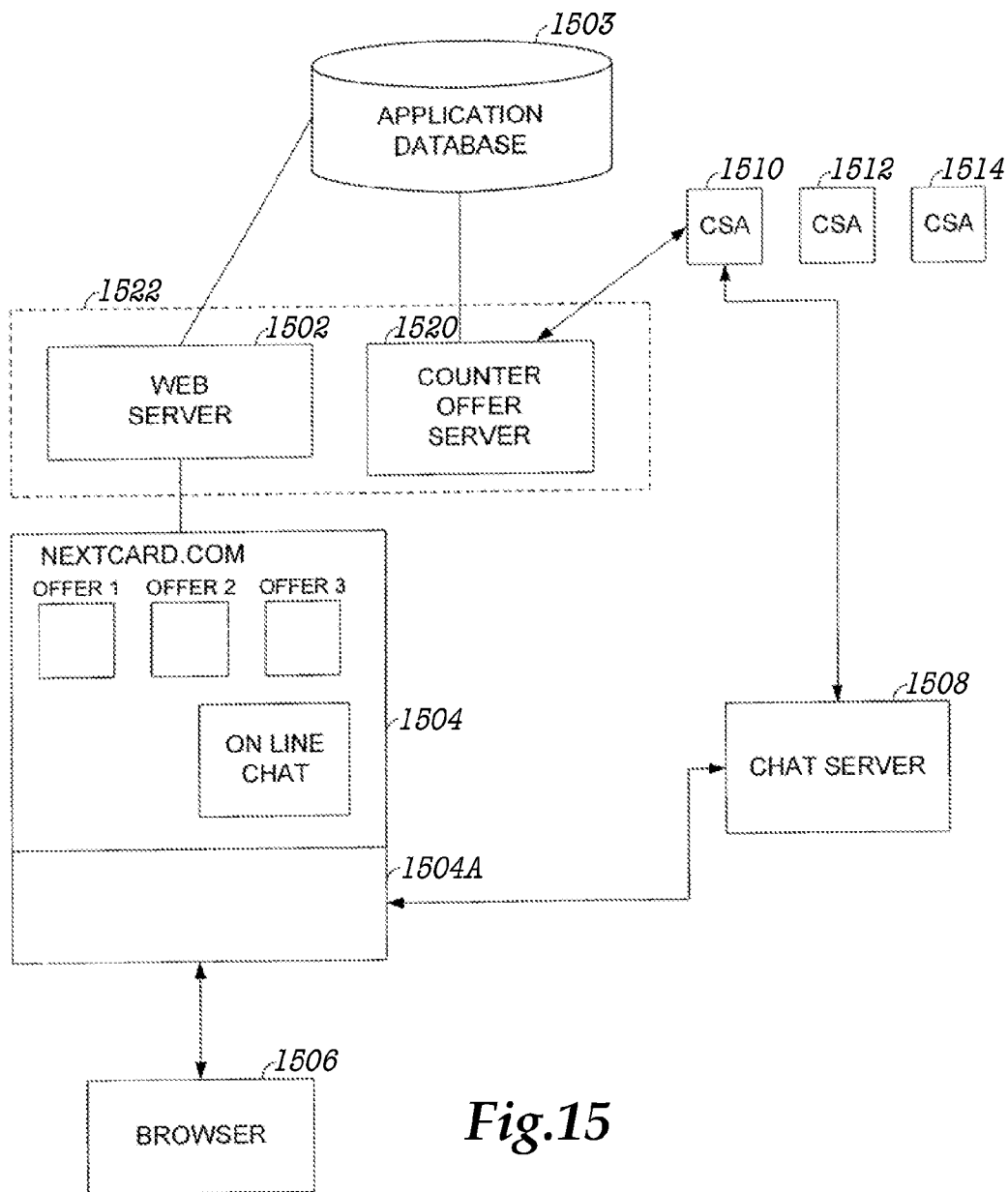


Fig.15

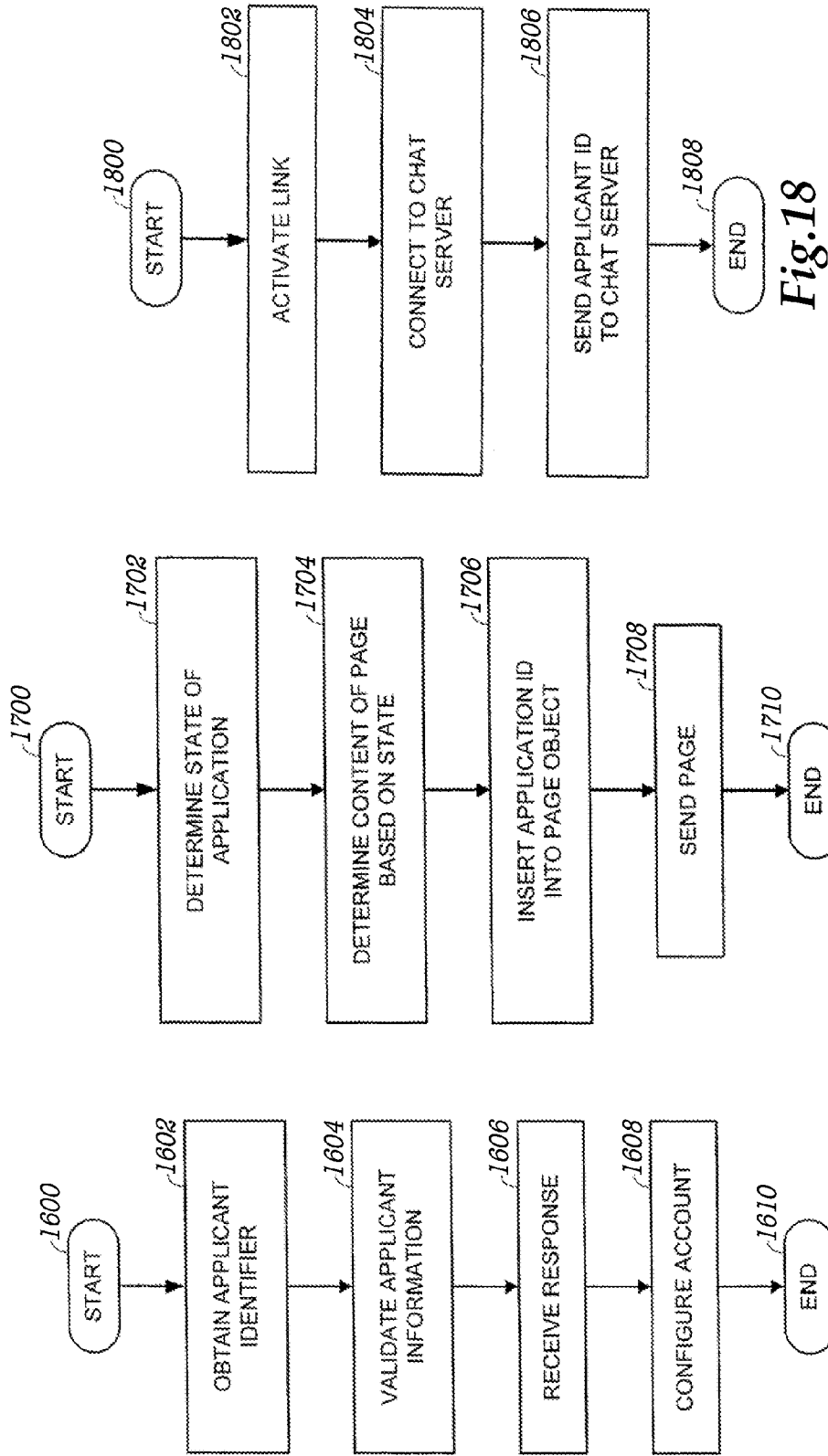


Fig. 16

Fig. 17

Fig. 18



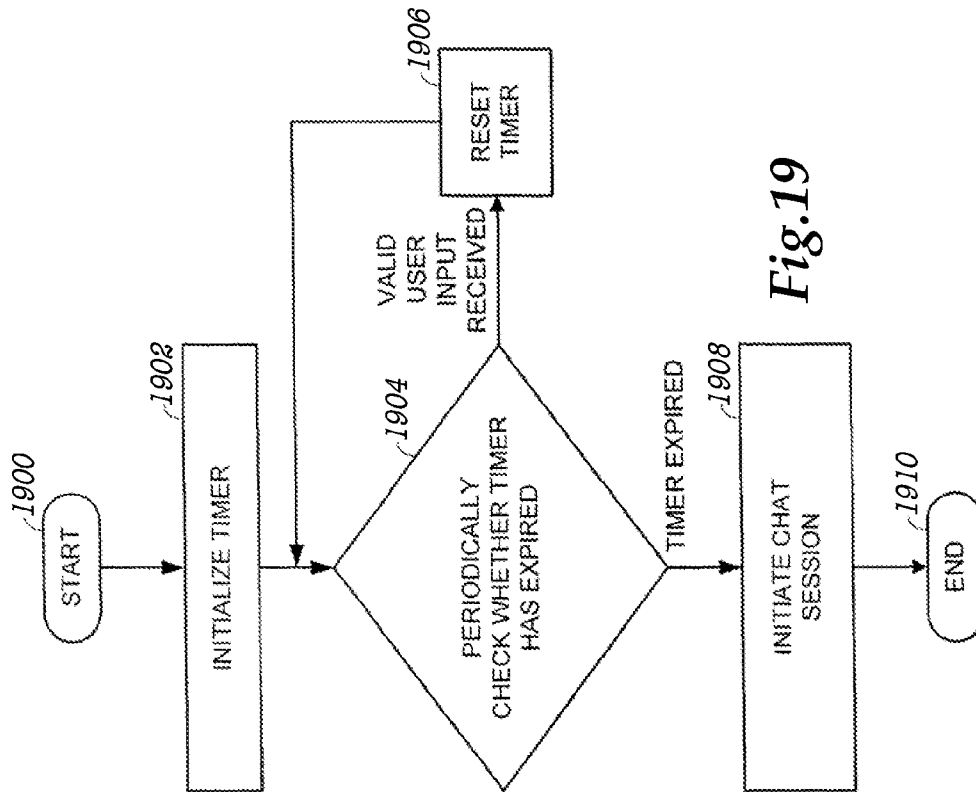


Fig.19

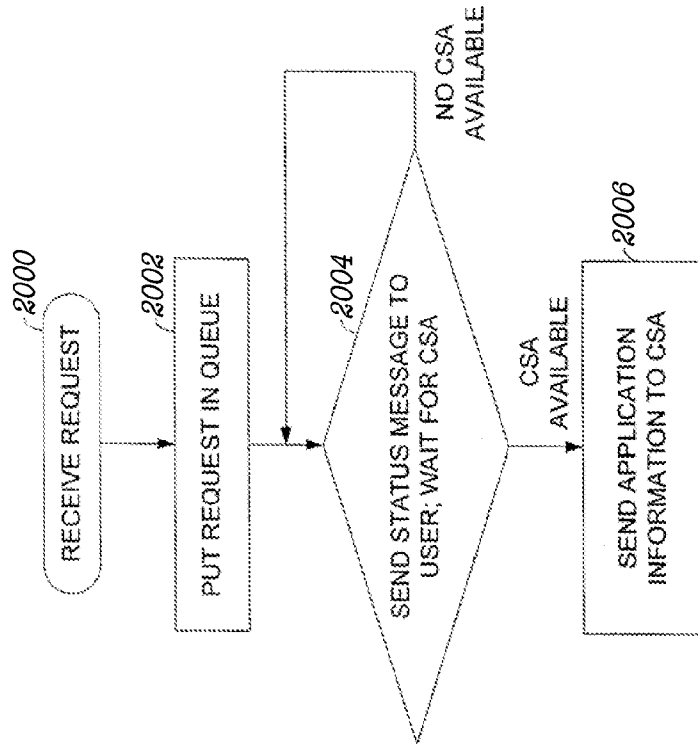
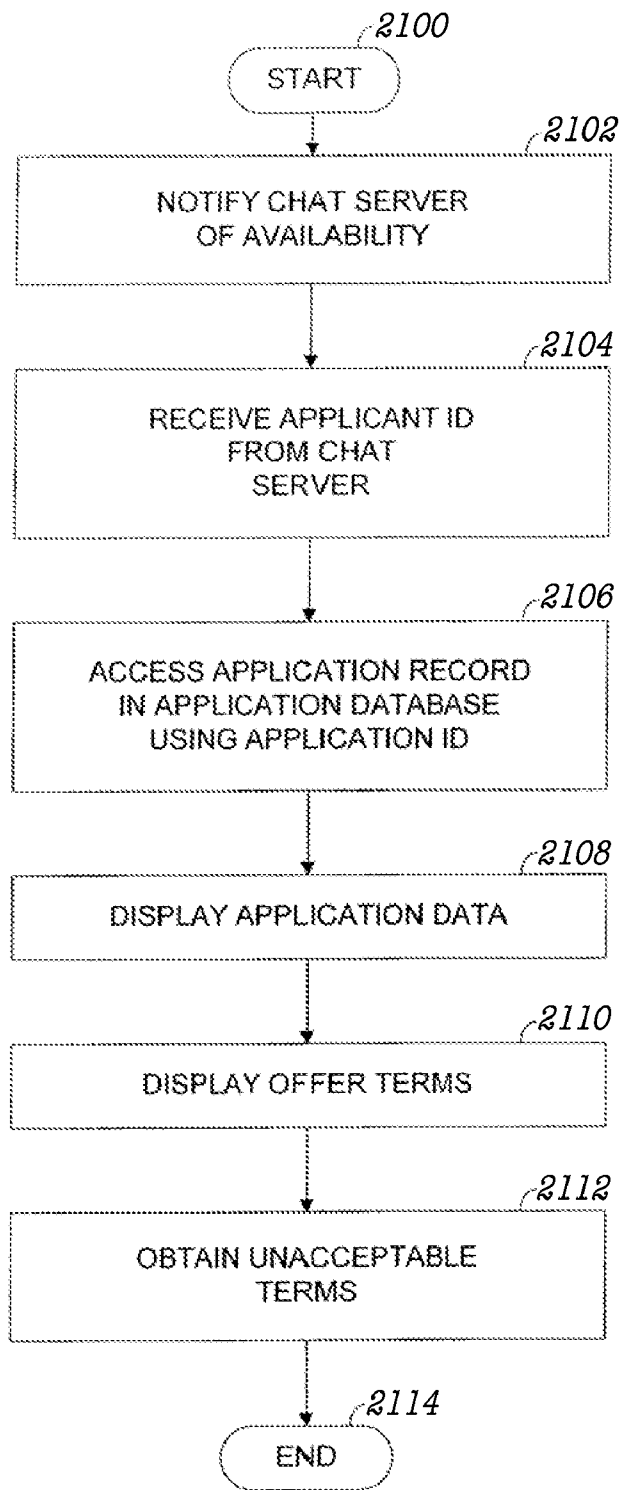


Fig.20

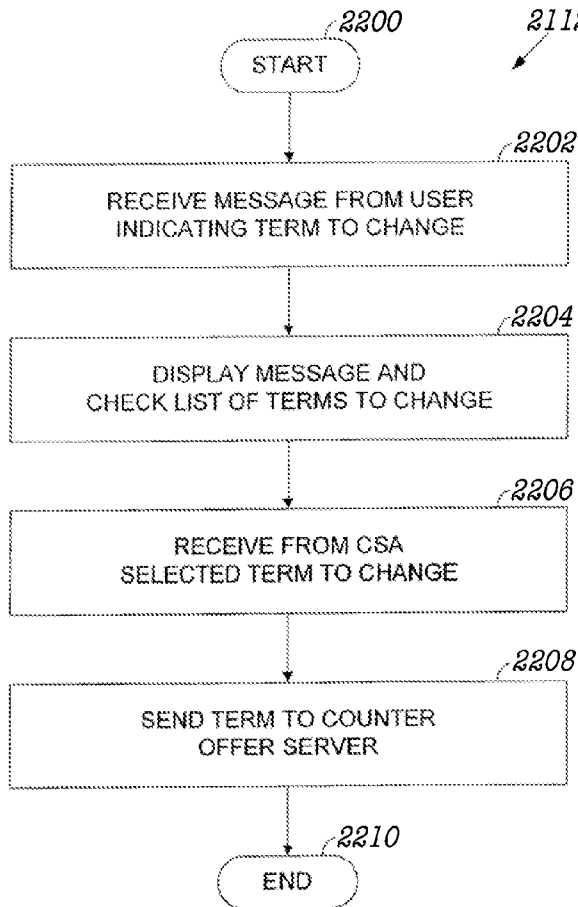


**Fig.21A**

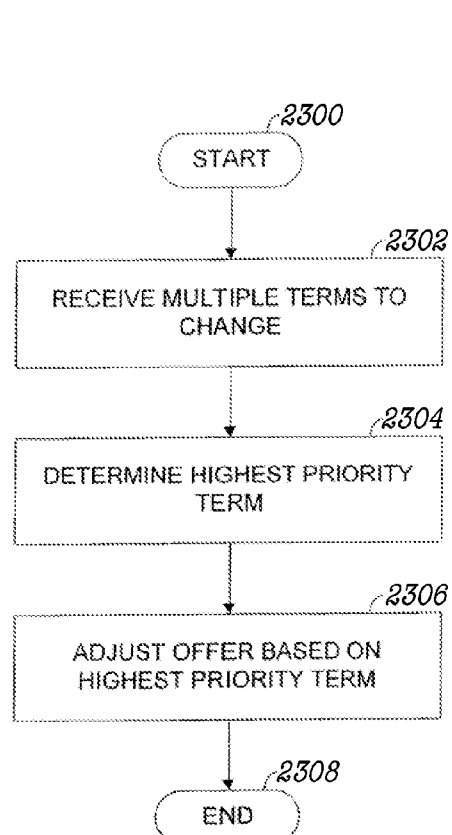
**INPUT TABLE**

<input type="checkbox"/> APR TOO HIGH
<input type="checkbox"/> LONGER INTRO
<input type="checkbox"/> WANT INTRO
<input type="checkbox"/> LINE TOO LOW FOR PURCHASES
<input type="checkbox"/> LINE TOO LOW FOR BALANCE TRANSFER
BT AMOUNT \$, _ . _      REQUESTED CREDIT LIMIT \$, _ . _
<input type="checkbox"/> GET COUNTER OFFER

**Fig.21B**



**Fig.22**



**Fig.23**

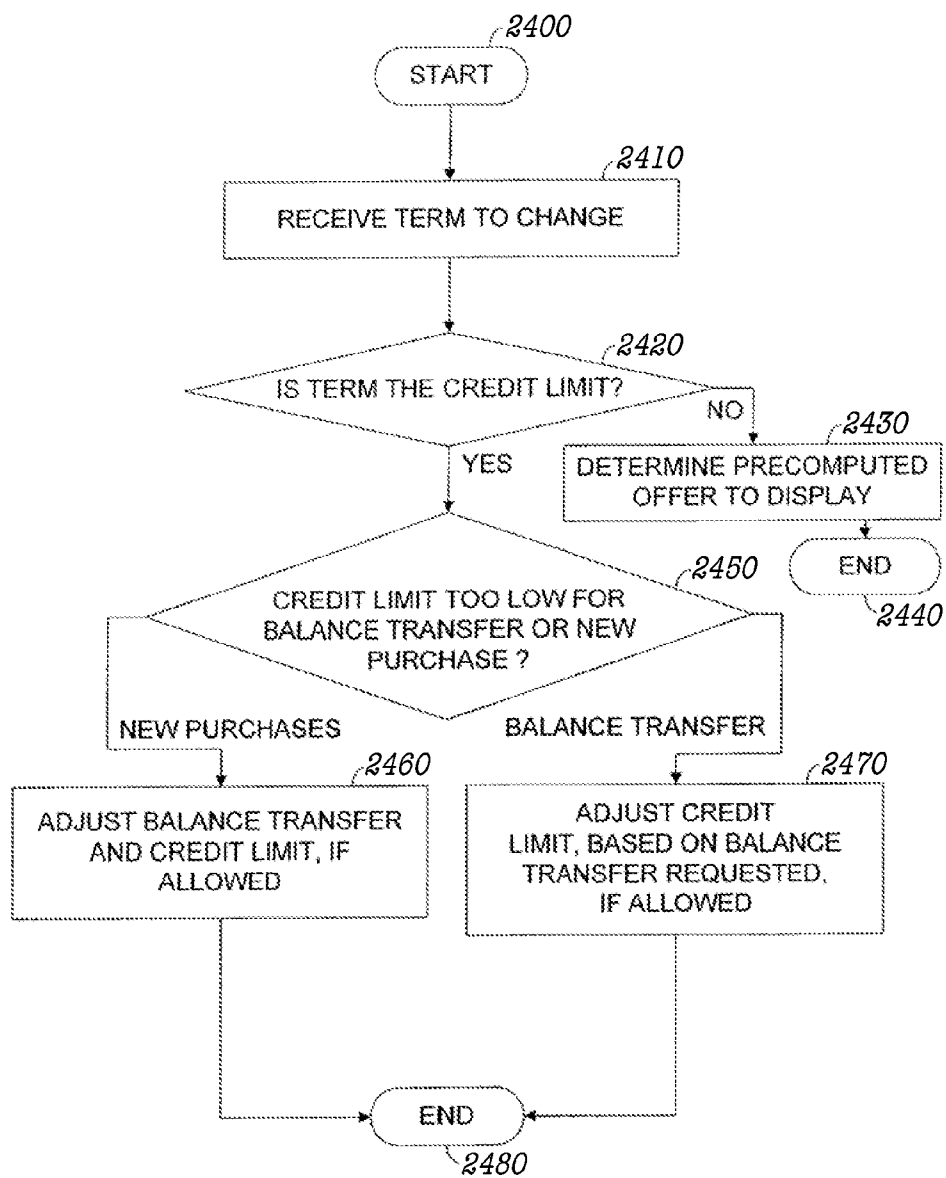
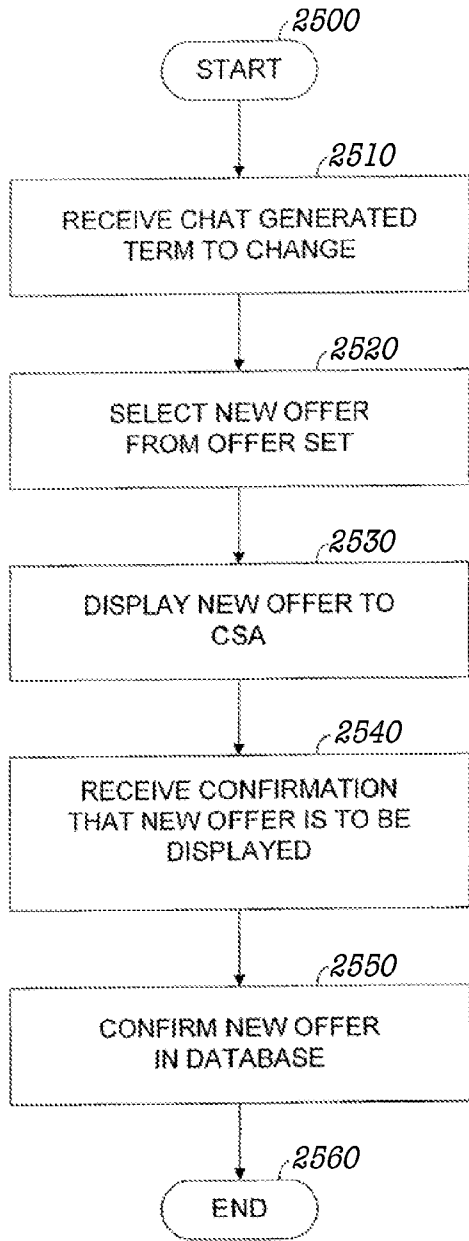
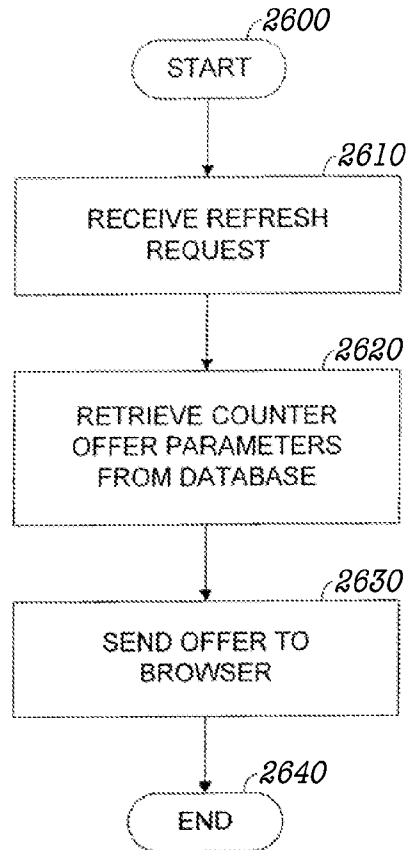


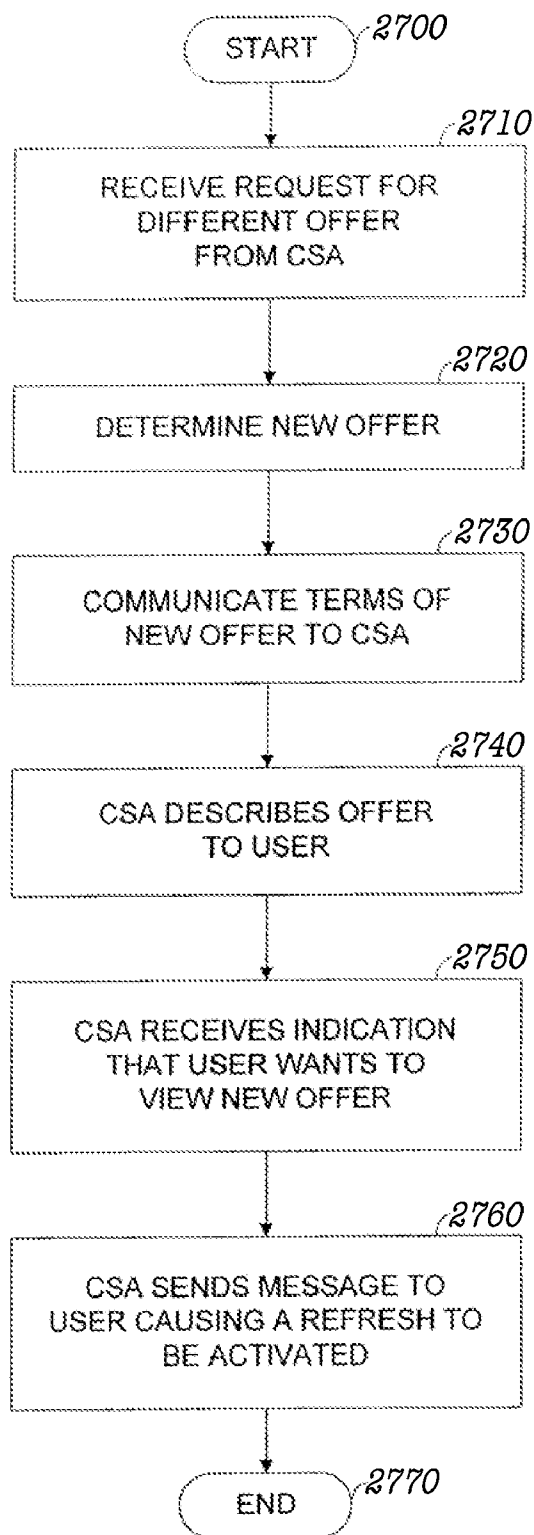
Fig.24



*Fig.25*



*Fig.26*



*Fig.27*

**METHOD AND APPARATUS FOR REAL TIME ONLINE CREDIT APPROVAL**

**CROSS REFERENCE TO RELATED APPLICATIONS**

[0001] This application is a continuation of U.S. patent application Ser. No. 11/932,498, filed Oct. 31, 2007, which is a continuation of U.S. patent application Ser. No. 10/901,715, filed Jul. 28, 2004, which is a continuation of U.S. patent application Ser. No. 09/595,601, filed Jun. 15, 2000, now U.S. Pat. No. 6,795,812, which is a continuation-in-part of U.S. patent application Ser. No. 09/185,201, filed Nov. 3, 1998, now U.S. Pat. No. 6,405,181, and U.S. patent application Ser. No. 09/858,878, filed Nov. 3, 1998, now U.S. Pat. No. 6,567,791, and U.S. patent application Ser. No. 09/185,000, filed Nov. 3, 1998, now U.S. Pat. No. 6,324,524, all of which are herein incorporated by reference.

**TECHNICAL FIELD OF THE INVENTION**

[0002] The present invention relates generally to electronic commerce. More specifically, the invention relates to methods and apparatuses for providing real time credit approval to an applicant online by obtaining data from an applicant, verifying and formatting the data so obtained in a manner that permits accessing the applicant's credit report, and making an underwriting decision to grant or deny credit to the applicant in real time based on data from one or more credit bureau reports.

**BACKGROUND**

[0003] With the advent of electronic commerce on the Internet, applicants have begun to expect decisions that have historically required a period of days or weeks to be made instantly when processed on line. Numerous transactions such as purchases of consumer goods, airline tickets, and movie tickets have been adapted for execution on line in a matter of seconds. What has not been perfected is the ability to make a credit decision and grant credit to a party on line in real time. (For the purpose of this specification, "instant" or "real time" credit means within a short period of time within less than about five minutes.) As a result, virtually all Internet commerce to date requires some previously secured method of payment such as a credit card obtained by conventional means or other previously anaged payment source such as a bank account or electronic money.

[0004] One factor that has prevented Internet applicants from providing information and receiving instant approval for credit is the difficulty of interfacing with the various credit bureau databases (Equifax, Trans Union, and Experian). Personal information must be entered by a party authorized by the credit bureaus to communicate with the credit bureaus for the purpose of accessing credit bureau reports. Such information must be in exactly the correct form in order for an individual's credit report to be retrieved. Another difficulty has been that the decision to grant credit carries with it significant risk and systems have not been successfully designed that can make a sufficiently reliable underwriting decision using data provided directly by an applicant. Many credit card issuers provide applications on line that may be filled out by applicants. However, data from those applications must be entered manually into the credit card issuer's system for processing before a credit report is obtained and an underwriting decision can be made. Other applicants may be preapproved by an

existing card issuer's system before an offer is made and accepted online. However, the underwriting process has not been sufficiently automated to allow a credit decision to be made in real time for an applicant who has entered personal data into an application system.

[0005] What is needed is a system and method for obtaining personal data from a credit applicant, parsing the data into a format that is compatible with that used by the credit bureaus, obtaining credit bureau information and making an underwriting decision in real time. Such a system would be useful for conveniently obtaining a credit card on line. Automation of a process for obtaining a credit report and making

[0006] an underwriting decision without human intervention would be beneficial because credit approval decisions could be made faster and more cheaply. The true power of such a system would be realized when the system is accessed in the midst of a transaction to obtain credit specifically for the purpose of that transaction.

**SUMMARY**

[0007] The present invention provides a system and method for obtaining information from an applicant, accessing credit bureau information and making a real time underwriting decision to accept or reject the applicant. A parsing engine parses the information provided by the applicant so that it may be sent directly to a credit bureau. Information obtained from one or more credit bureaus is used by an underwriter engine to make a decision whether to grant credit to the applicant. It should be appreciated that the present invention can be implemented in numerous ways, including as a process, an apparatus, a system, a device, a method, or a computer readable medium. Several inventive embodiments of the present invention are described below. In one embodiment, a method of providing real time approval of credit over a network is disclosed. The method includes obtaining applicant data from an applicant. The applicant data is analyzed into a form suitable for directly obtaining a credit report from a credit bureau for the applicant. A credit report having credit report data is obtained from a credit bureau for the applicant. It is then determined whether to accept the applicant using the credit report data and it is communicated to the applicant that the applicant has been approved. These and other features and advantages of the present invention will be presented in more detail in the following specification of the invention and the accompanying figures which illustrate by way of example the principles of the invention.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0008] The present invention will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

[0009] FIG. 1 is a block diagram illustrating a preferred architecture for a system that provides instant on-line credit card approval.

[0010] FIG. 2 is a block diagram illustrating an application data structure that is used in one embodiment to store the data contained in an application and to keep track of the status of the application as it progresses through the various modules described in FIG. 1.

[0011] FIG. 3 is a flow chart illustrating the general process flow through the modules of FIG. 1.

[0012] FIG. 4A is a flow chart illustrating a validation process that is used in step according to one embodiment of the invention.

[0013] FIG. 4B is a flow chart illustrating a process for parsing an address entered by an applicant.

[0014] FIG. 5 is a flow chart illustrating a pre-credit bureau test performed in one embodiment of the invention.

[0015] FIG. 6A is a flow chart illustrating a process for making an underwriting decision using multiple credit reports.

[0016] FIG. 6B is a flow chart illustrating a process implemented on the Underwriter for using credit bureau data to accept or reject an applicant in one embodiment.

[0017] FIG. 6C is a flow chart illustrating a process for using the FICO score combined with other attributes to accept or reject an applicant.

[0018] FIG. 7 is a flow chart illustrating a process for checking the status of an application and executing either an offer process or one of several rejection processes.

[0019] FIG. 8A is a flow chart illustrating a process for determining an appropriate reason to display for rejecting an applicant and displaying that reason.

[0020] FIG. 8B is a diagram illustrating one data structure used to map main FICO factors provided by the credit bureau (referred to as external codes) to internal decline codes as well as reasons for rejection to be provided to rejected applicants.

[0021] FIG. 9 is a flow chart illustrating how a rejection reason may be obtained.

[0022] FIG. 10A is a flowchart illustrating a process for providing a set of multiple offers to an applicant and receiving a balance transfer amount corresponding to an offer selected by the applicant.

[0023] FIG. 10B is a flow chart illustrating one such method of deriving a credit limit for an applicant based on the applicant's FICO score and income, as well as the amount of total revolving balance that the applicant elects to transfer.

[0024] FIG. 11 is another data representation illustrating another embodiment of how the offers may be determined based on FICO score, income range, income, and total revolving balance transfer.

[0025] FIG. 12 is a diagram illustrating a display provided to the applicant for the purpose of presenting multiple offers to the applicant.

[0026] FIG. 13 is a flow chart illustrating a process for obtaining a real-time balance transfer from an applicant.

[0027] FIG. 14 is a block diagram illustrating one computer network scheme that may be used to implement the system described herein.

[0028] FIG. 15 is a block diagram illustrating a system for providing real time chat help to an applicant and generating a counter offer when appropriate.

[0029] FIG. 16 is a flowchart illustrating a general process implemented on the chat server.

[0030] FIG. 17 is a flow chart illustrating a general process implemented on the web server for sending dynamic web pages to the applicant.

[0031] FIG. 18 is a flow chart illustrating a process implemented on a browser for establishing a connection to a chat server.

[0032] FIG. 19 is a flowchart illustrating a typical process implemented on the browser for the purpose of initializing chat when the user does not respond to a downloaded web page in a certain period of time.

[0033] FIG. 20 is a flow chart illustrating a process implemented on a chat server when a chat session is requested by a browser as described above.

[0034] FIG. 21A is a flow chart illustrating a process implemented at a customer service agent for the purpose of supporting the chat session.

[0035] FIG. 21B is a screen shot illustrating a display of offer terms used in one embodiment for determining which terms are unacceptable.

[0036] FIG. 22 is a flow chart illustrating in detail a process implemented in step 712 for obtaining the unacceptable terms of an offer from an applicant.

[0037] FIG. 23 is a flow chart illustrating the process implemented on the counter offer server when more than one term is selected as being unacceptable to the applicant.

[0038] FIG. 24 is a flow chart illustrating an example process for generating a counter offer.

[0039] FIG. 25 is a flowchart illustrating a process implemented on a counter offer server to generate and confirm a new offer for display to the applicant.

[0040] FIG. 26 is a flowchart illustrating a process implemented on the web server portion of the application server for the purpose of displaying a new counter offer to the applicant.

[0041] FIG. 27 is a flow chart illustrating a process used in one embodiment to automatically generate a refresh on the applicant's browser.

#### DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0042] Reference will now be made in detail to the preferred embodiment of the invention. An example of the preferred embodiment is illustrated in the accompanying drawings. While the invention will be described in conjunction with that preferred embodiment, it will be understood that it is not intended to limit the invention to one preferred embodiment. On the contrary, it is intended to cover alternatives, modifications, and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims. In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. The present invention may be practiced without some or all of these specific details. In other instances, well known process operations have not been described in detail in order not to unnecessarily obscure the present invention.

[0043] FIG. 1 is a block diagram illustrating a preferred architecture 102 for a system that provides instant on-line credit card approval. As shown, an application engine 104 creates an application by prompting an applicant for data and storing the entered data. In one embodiment, the application engine creates an application by communicating with the applicant over the World Wide Web using Java, html or other commonly used Internet protocols. In other embodiments, other types of connections may be established between the applicant and the application engine. The application includes applicant data such as the applicant's address and social security number. Once created, the application is received by the parsing engine 106 which parses an applicant's name and address and creates appropriate software objects.

[0044] The parsing engine 106 parses the data into an exact format that may be used to directly access credit bureau data. The applicant is given an opportunity to view how the data submitted has been parsed and to make corrections to parsed



data, if necessary. The parsing engine 106 is described in further detail in FIG. 4B. The parsed data is passed to a Validator 108. Validator 108 validates certain data entered by the applicant such as the social security number and zip code. Validation may include checking either the form of a number to ensure that the correct number of digits have been entered or checking content such as checking that the area code portion of a phone number is a valid area code or checking that a zip code matches a city. If the data is determined to be valid, then the validated data is input to an Underwriter 110. It is important to avoid sending invalid data to the Underwriter to avoid the cost of requesting credit reports that cannot be used.

**[0045]** Underwriter 110 receives data from the parsing engine and evaluates the data to determine if the applicant should receive an offer for credit. In one embodiment, the Underwriter sends the parsed data to at least two credit bureaus, receives data from the credit bureaus, and makes an underwriting decision based on an analysis of the credit bureau data. The analysis may include, but is not limited to, comparing the applicant's Fair Isaac Risk Score (FICO score) to certain thresholds. Underwriter 110 is described in further detail in FIGS. 6A and 6B. If the Underwriter determines that an offer of credit should be extended to the applicant, then an offer is made in real time to the applicant. As is described below, the offer may include one or more sets of alternative terms and those terms may be conditioned on the applicant taking certain actions such as transferring balances. The applicant may be required to actually take such actions in real time before an offer conditioned on such actions is confirmed. If the Underwriter determines that no offer of credit should be extended, then the Underwriter determines a reason for rejecting the applicant.

**[0046]** Whether an offer is extended and accepted or not, information about the offer or the rejection is passed to a creditor module 112 that finalizes the offer and builds a data file that is in the proper form to be sent to First Data Resources, Inc. (FDR), or another such entity that provides a similar service to FDR's service. During the finalization of the offer, FDR data is built for all approved and declined applications. FDR handles the embossing of the card and delivering it to approved applicants. FDR also handles sending rejection letters to rejected applicants.

**[0047]** If, at any time during the process, a system error occurs that interrupts the process, then an application object loader 114 loads the appropriate application for reentry into the system. It should be noted that in one embodiment, the data that is processed and stored by each module is stored as an application object as is described further in FIG. 2. In other embodiments, the data is stored in other ways, such as in a table or in a database.

**[0048]** FIG. 2 is a block diagram illustrating an application data structure 202 that is used in one embodiment to store the data contained in an application and to keep track of the status of the application as it progresses through the various modules described in FIG. 1. It should be noted that other data structures may be used in other embodiments within the scope of this invention. Application data structure 202 includes an application object 204 that is created by the application engine. Application object 204 points to a number of associated data structures, including an applicant object 206. Applicant object 206 stores applicant data and includes one or more data elements 208. For example, an applicant data element 208 may include information such as the applicant's address, phone number, or social security number. The appli-

cation data structure also includes one or more test result objects 210. Each test result object 210 stores a validation status 212 associated with a validation test applied to the data associated with applicant object 206. For example, a test result object may include a social security number status indicating whether the social security number entered by the applicant is a valid social security number. Also, a test result object 210 may include a zip code status indicating whether the zip code entered by the applicant matches the rest of the address entered by the applicant. Test result objects are used to check whether data entered by the applicant is valid before certain actions are taken, such as a credit report being ordered.

**[0049]** The application data structure further includes a set of credit report objects 214 associated with each credit report ordered. In one embodiment, the Underwriter requires at least two credit reports from two of three credit bureaus before a decision to grant credit is made. This rule effectively enables a real time credit decision to be made without incurring an unacceptable amount of risk. Since credit reports are preferably ordered from more than one credit bureau, the application data structure will likely include several credit report objects. Each credit report object 214 includes a plurality of attributes 216. An attribute is an item of data provided by the credit bureau in the credit report. For example, one such attribute is a 90 day attribute that indicates the number of times that the applicant has been more than 90 days late in payment of a debt. Similarly, a 60 day attribute may be provided. Other attributes may include a FICO score, the number of times the applicant has been severely delinquent, existence of a derogatory public record, whether the applicant is now delinquent, the applicant's total revolving balance, and the amount of time that a credit report has been on file for the applicant (also referred to as "thickness of file" or "time on file.")

**[0050]** As is described below, in one embodiment, the Underwriter bases its decision on the FICO score alone when the FICO score is below a rejection threshold. In some embodiments, there may be automatic approval when the FICO score is above an approval threshold.

**[0051]** The application data structure further includes FDR data object 218 associated with the application. FDR data is created by the creditor module for the purpose of sending application information to FDR so that FDR may send credit cards to successful applicants and send rejections to unsuccessful applicants, when that is required.

**[0052]** The application object also includes a status object 220. The status of the application object is determined at various times by the modules. For example, the Validator module may determine that the application is invalid based on an invalid social security number or zip code. The Underwriter module may also determine that the application is a duplicate, as will be described below. The Underwriter may also change the status of an application to accepted or declined. In addition, certain applications may be tagged with a fraud status flag indicating that there is a likelihood of fraud. The application data structure also may include a set of offers 222 to be provided to the applicant.

**[0053]** Thus far, the software architecture and data structure used to make a real time credit decision in one embodiment have been described. Next, the processes implemented in the modules will be described.

**[0054]** FIG. 3 is a flow chart illustrating the general process flow through the modules of FIG. 1. The process starts at 300. In a step 304, applicant data is obtained via html, Java or other

suitable network protocol. It should be noted that in different embodiments, the information entered by the applicant may be either parsed first by the parsing engine or validated first by the Validator. For the purpose of illustrating this point, FIG. 3 shows Validation occurring first in a step 306. FIG. 1 alternatively shows the parsing engine operating first. If the information is not valid, then control is transferred from a step 308 to a step 309 and the applicant is given an opportunity to edit the data. The Validator then rechecks the edited data.

[0055] If the information is valid, then control is transferred to a step 310 where the data entered is displayed along with the field assigned to each part of the data by the parsing engine. This step is important to ensure that the data will be readable when it is sent to a credit bureau by the Underwriter. An exact match is required by the credit bureaus for the correct credit report to be sent. Various ambiguities in the way that an address may be expressed can cause difficulties. Such difficulties have been a significant factor in preventing other systems from allowing individuals to directly access credit bureau data. For example, it is necessary to distinguish a street direction that is part of a street address from a street name that happens to be a direction, such as "North."

[0056] To make certain that such distinctions as well as other distinctions are made correctly, the parsing engine categorizes each part of the entered address and presents the field names along with that portion of the address that it has assigned to each field name. So, for example, the applicant can move "North" from a street direction field to a street name field if that is appropriate. Thus, by parsing the address and assigning the different parts to fields and then allowing the applicant to check and edit the assignment, the parsing engine enables applicants with no knowledge of the Byzantine structure required by the credit bureaus to enter personal data in a manner that allows a credit report to be obtained without human intervention. Initial parsing is achieved by analyzing the form of the address and dividing, for example, the street number, street name, city and state. However, regardless of the care taken in designing initial parsing, some miscategorization will likely occur. Displaying the parsing to the applicant and allowing the applicant to correct parsing errors enables the imperfect output of the parsing engine to be corrected. At the same time, the process is much more user friendly and less tedious for the user than if the user had been asked to enter each field that the address is divided into by the parsing engine separately. By having the parsing engine parse the address and present the result of the parsing to the user, tedium is minimized and accuracy is achieved.

[0057] If the applicant responds that the data and parsing is correct instead of editing the parsing of the data into the displayed fields in step 310, then a step 311 transfers control to a step 312 where pre-credit bureau tests are run on the data. If the applicant edits the data, then control is transferred back to step 306 and the data is re-checked for validity. If the applicant fails the pre-credit bureau test, then the applicant's status is changed to rejected in a step 313 and if the applicant passes the pre-credit bureau test, then the credit bureaus are accessed and credit bureau tests based on the data obtained from the credit bureau and other applicant data are performed in a step 314. If the applicant passes the credit bureau tests, then post credit bureau tests are run in a step 316. If the applicant passes the post credit bureau tests, then the applicant is accepted to receive an offer for credit and the approval process ends at 320.

[0058] If the applicant fails the credit bureau tests, then the application status is changed to rejected in a step 315. As described below, an on line rejection process is executed for applications with a rejected status. Thus, the applicant information is input to a series of tests and the result of the tests determines whether the applicant is accepted or rejected.

[0059] FIG. 4A is a flow chart illustrating a validation process that is used in step 306 according to one embodiment of the invention. The Validator performs a plurality of validation tests on the applicant data. The process starts at 400. In a step 402, the applicant's address is validated according to an address validation test. In one embodiment, address validation includes checking that a street number and street name are entered and not a PO box. Next, in a step 404, a validation status associated with the address validation test is stored in a test result object. In a step 406, the applicant's phone number is validated according to a phone number validation test. The phone number validation test may include checking the number versus one or more tables or checking that an appropriate number of digits are provided. In a step 408, a validation status associated with the phone number validation test is stored in a test result object. Finally, in a step 410, the applicant's social security number is validated according to a social security number validation test. In a step 412, a validation status associated with the social security number validation test is stored in a test result object and the process ends at 420.

[0060] In this manner, the form of the data entered by the applicant is checked to determine whether the data entered is at least potentially correct. For example, if a social security number that does not exist for anyone is entered, it can be determined that the entered data must be invalid. In other embodiments, additional validation tests may be performed. Specifically, validation tests that help detect fraud may be implemented. In one embodiment, the validation status associated with each test result object includes a time stamp. Multiple applications with the same or similar names may be tracked and a history may be saved. Fraud tests may be implemented that track the number of applications submitted by a given individual and check the consistency of applicant data between multiple submitted applications.

[0061] FIG. 4B is a flow chart illustrating a process for parsing an address entered by an applicant. The process starts at 450. In a step 452, the address is split into fields using a parser. Next, in a step 454, the parsing result is displayed. The applicant is prompted to indicate whether or not the parsing result is correct in a step 456. If the result is not correct, then control is transferred to a step 458 and the applicant is allowed to change the fields assigned to each part of the data. Once the parsing is approved by the applicant, control is transferred to a step 460 and the parsed data is sent to the Underwriter. It should be noted that the data may also be sent through the Validator again if the data was changed by the user. The process ends at 462.

[0062] FIG. 5 is a flow chart illustrating a pre-credit bureau test performed in step 312 in one embodiment of the invention. Pre-credit bureau tests are performed prior to obtaining one or more credit reports for the applicant for the purpose of avoiding the expense of obtaining a credit report for certain applicants who would not be approved regardless of the content of the credit report. For an example, an applicant could be rejected based the applicant being of a minor age. In one embodiment, the pre-credit bureau test is performed by the Underwriter. In other embodiments, the pre-credit bureau test

may be performed by the parsing engine or a separate module. The process starts at **500**. In a step **502**, the applicant's income is obtained. Next, at step **504**, it is determined if the applicant's income exceeds an annual income criteria. If the applicant does not meet the annual income criteria, the status of the application may be set to declined in a step **506**. By way of example, if the income entered by the applicant is less than \$15,000, the status of the application may be set to declined. In a step **508**, the applicant's age is obtained. In a step **510**, the applicant is verified to meet a minimum age criteria. For example, the minimum age may be 18. If the applicant fails to meet the minimum age criteria, the application status may similarly be set to declined in a step **512**. It should be noted that the above description recites that age and income are checked in separate steps. Alternatively, they may be checked together.

**[0063]** If the applicant meets the minimum age and income requirements, then control is transferred to a step **514**. Step **514** checks whether the application entered is a duplicate application. If the applicant has previously entered the information in the application database, then the current application is a duplicate application. It is important to recognize such duplicate applications so that a single applicant cannot require multiple credit reports to be obtained. In one embodiment, duplicate applications are recognized by checking for duplicate social security numbers, duplicate names and/or duplicate addresses. In order to be rejected by the system, an application must match two of the three criteria. A rule is established that an applicant may reapply for a credit card after a specified time period has elapsed (e.g., 60 days). Such a rule is implemented in a step **516** that checks whether the application submission date exceeds a specified time period since the submission date of the found duplicate application. If the application is submitted prior to the specified time period, the status of the application is changed to duplicate in a step **518** and the process ends at **520**.

**[0064]** When a duplicate application is submitted, then the applicant is notified and a message is provided that informs the applicants that duplicate applications may not be submitted within a certain time period of each other. In addition, the applicant may also be prompted to go to a re-entry screen that allows the found duplicate application to be processed if processing of that application was previously interrupted. In this manner, if an applicant quit in the middle of the application process, then the application process can be completed for the previously submitted application.

**[0065]** It should be noted that a specific series of pre-credit bureau tests have been shown for the purpose of illustration. Other tests can be used within the scope of this invention. Also, it should be noted that if one test is failed, then remaining tests are skipped in some embodiments. Alternatively, all of the pre-credit bureau tests may be performed and the pre-credit bureau test results may be stored in separate question objects. This may help detect potentially fraudulent applicants who create many duplicates. If an application is determined potentially to be fraudulent, the status of the application is changed to fraud. Alternatively a separate flag may be set to indicate the potential fraud.

**[0066]** Once it is determined the applicant has entered data that is at least potentially valid and the applicant has approved the output of the parsing engine, the application is ready to be checked by the Underwriter to determine whether credit should be approved for the applicant. The Underwriter makes such a determination based on the information obtained from

credit bureaus. Since the decision made by the Underwriter is made without human intervention, it is particularly important that the method of determination made by the Underwriter is reliable. For this reason, it is preferred that, in order for an applicant to be approved, at least two credit bureaus must provide information about that applicant that passes a series of tests. In some embodiments, this rule may be relaxed, but a process that requires data from at least two credit bureaus for approval has been shown to have superior reliability to processes without such a requirement. In particular, it has been determined that requiring data from at least two credit bureaus for approval is an important factor in enabling the real time credit approval system to make sufficiently reliable determinations.

**[0067]** Because at least two credit reports from two different credit bureaus are required, it is possible that certain applicants may be rejected because they are only included in the records of a single credit bureau. When this occurs, that reason for rejection is given to the applicant instead of a reason based on the failure of the applicant to pass a test based on credit bureau data.

**[0068]** FIG. 6A is a flow chart illustrating a process for making an underwriting decision using multiple credit reports. The process starts at **600**. In a step **602**, a first credit bureau test is performed. The process of performing a test on individual credit bureau data is further described in FIG. 6B. If that test is failed, then the application is rejected in a step **604** and the process ends at **606**. Immediately rejecting the application after a first failure saves the cost of obtaining a second credit bureau report. If the first credit bureau test does not fail, either because no report is obtained or because the test is passed, then control is transferred to a step **608** and a second credit bureau test is performed. If that test is failed, then the application is rejected in step **604** and the process ends at **606**. If the second credit bureau test does not fail, then it is determined in a step **612** whether two credit bureau tests have been passed. If two tests have been passed, then the application is accepted in a step **614** and an offer is determined as described below.

**[0069]** If two credit bureau tests have not been passed, then control is transferred to a step **616** where it is determined whether one credit bureau test has been passed. If one credit bureau test has not been passed, then the application is rejected in a step **618** for not having a record in at least two credit bureaus. The third credit bureau is not checked since it is not possible to get at least two credit reports at that point. If one credit bureau test has been passed, then a third credit bureau is consulted in a step **620**. If the third credit bureau test is failed, then the application is rejected in a step **622** and the process ends at **606**. If the third credit bureau report does not have a record for the applicant, then the application is rejected in step **618** for not having enough credit records and the process ends at **606**. If the third credit bureau test is passed, then the application is accepted in a step **624** and the process ends at **606**.

**[0070]** Thus, the Underwriter only accepts applications that pass at least two credit bureau tests. It should be noted that a special reason for rejection may be given to applicants who are rejected because they do not have a record in at least two credit bureaus. Also, it should be noted that in some embodiments, it is distinguished whether a credit report is not obtained because a credit bureau is temporarily unavailable or whether a credit report is not obtained because there is no record for the applicant. In the event that a credit bureau is

unavailable, an applicant that cannot be found in the remaining two credit bureaus may be given a special rejection notice indicating that a later attempt should be made by the applicant when the unavailable credit bureau is functioning. Also, when two credit bureaus are unavailable at the same time, all applicants may be requested to reapply when the credit bureaus return on line.

[0071] FIG. 6B is a flow chart illustrating a process implemented on the Underwriter for using credit bureau data to accept or reject an applicant in one embodiment. The process starts at 650. In a step 652, a credit report is requested from the credit bureau. As described above, the credit report can be requested using data entered directly by the applicant because the parsing engine classifies the data into appropriate fields to be sent to the credit bureau. Once the report is received, the Underwriter performs tests on the data in the credit report. Data entered by the applicant may be used for Underwriter tests as well. In a step 656, a set of attribute tests are performed using the credit report. Attribute tests are general tests that may be applied to any credit report. Each attribute test corresponds to a general attribute provided in the credit report. Attribute tests may include threshold tests, which compare certain parameters such as a FICO score to a threshold, or logical tests, which check for the existence of certain adverse records. Next, in a step 658, a set of credit report specific tests are performed using the credit report. A set of credit report specific tests may be defined for each credit bureau. Each credit report specific test corresponds to data that is specific to a particular credit bureau.

[0072] The credit bureau tests may be separately performed to avoid performing the remaining tests once the failure of the application to pass a test results in a determination that the application will be declined. However, each of the set of attribute tests and credit report specific tests are preferably performed so that the best basis for rejection may be identified and provided to the applicant. Determining an appropriate basis of rejection to display to the applicant is described further below in connection with FIG. 7. It is determined in a step 660 whether the applicant passed the credit tests and the application is rejected in a step 662 if the applicant failed the tests. If the applicant passes the tests, that is noted in a step 664 for the purpose of determining whether the applicant should be accepted as described in FIG. 6A. The process then ends at 670.

[0073] As described above, the process of performing the various tests may generally be considered as performing various attribute tests and credit specific tests and combining the results of those tests in some fashion to make a decision to pass or fail an applicant.

[0074] FIG. 6C is a flow chart illustrating a process for using the FICO score combined with other attributes to accept or reject an applicant. The process starts at 680. In a step 682, the FICO score is checked. If the FICO score is below a rejection threshold, then the application is rejected in a step 684. If the FICO score is above an acceptance threshold, then control is transferred to a step 688 and other attributes are checked. If any attribute tests are failed, then control is transferred to step 688 by a step 690 and the application is rejected. If all attribute tests are passed, then control is transferred to a step 692 and the application is accepted. The process ends at 694.

[0075] It should be noted that in other embodiments, other methods of determining whether to accept or reject an appli-

cant are used. For example, in one embodiment, an applicant is accepted automatically if he or she has a FICO score that is above a certain threshold.

[0076] The attribute tests performed in step 688 may take on various forms. In one embodiment, a list of attributes is checked including attributes such as whether the applicant is severely delinquent, currently delinquent, has a derogatory public record, or has been delinquent a certain number of times in a past period. A test may be defined for each attribute such as a maximum number of times delinquent above which the test is failed. In one embodiment, a list of tests is defined and all of the tests must be passed. In another embodiment, a list of tests is defined and certain subsets of the list are also defined. At least one subset must be passed for the applicant to pass.

[0077] Once the decision is made to accept or reject an applicant, the status of the applicant is set to be accepted or rejected. Rejected applications are processed in a rejection process described in FIG. 7. Accepted applications are processed in an offer and confirmation process described in FIG. 10A.

[0078] FIG. 7 is a flow chart illustrating a process for checking the status of an application and executing either an offer process or one of several rejection processes. The process starts at 700. In a step 702, the status of the application is checked based on the processing performed by the Underwriter. As mentioned above, the Underwriter determines whether the application is a duplicate application, whether enough credit bureaus are available to provide sufficient credit reports to evaluate the application, and whether applications having sufficient credit reports should be accepted or rejected.

[0079] If the status of the application determined by the Underwriter is that the application is a duplicate of a previously entered application, then control is transferred to a step 706 and a message indicating that the application is a duplicate is displayed to the applicant. Next, in a step 708, a link to a reentry screen is provided to the applicant. The reentry screen allows the applicant to execute a process that finds the earlier application and allows the applicant to review or resume the earlier application. For example, if the earlier application was accepted but the applicant did not accept an offer, then the process may resume at that point and the applicant may be given another opportunity to accept. This is preferable to allowing the application process to be repeated from the beginning since that could needlessly cause a new credit report to be obtained. After the reentry screen is displayed, the process ends at 720.

[0080] If the status of the application indicates that the application has been accepted, then control is transferred to a step 714 and an offer process is executed. The offer process is described in further detail in FIG. 10. If the status of the application is that a credit bureau error occurred, then control is transferred to a step 710 and an error message is displayed indicating that not enough credit bureaus are currently available to allow the application to be processed. Also, in a step 712, a link is provided to a site that allows the applicant to report the error and request further information or request to be contacted. After the offer process or the credit bureau error process is executed, the process ends at 720.

[0081] If the status of the application indicates that the application has been rejected, then control is transferred to a step 704 and a rejection process is executed. The rejection

process is described in further detail in FIG. 8A and FIG. 8B. Once the rejection process is executed, the process ends at 720.

[0082] FIG. 8A is a flow chart illustrating a process for determining an appropriate reason to display for rejecting an applicant and displaying that reason. The process starts at 800. In a step 802, the main factors given by the credit bureau that affect the FICO score are obtained. Generally, the main factors identified by the credit bureau for the FICO score are provided in the form of a numerical code that corresponds to a predetermined factor. In a step 804, the credit bureau code is mapped to an internal code that is determined from a data structure that maps bureau codes to internal factors. In one embodiment, the data structure is a table such as that illustrated in FIG. 8B.

[0083] Certain credit bureau codes that indicate positive factors that would be inappropriate bases for rejection such as home ownership are mapped by the data structure to a general rejection reason such as "Applicant rejected based on FICO score" or "Applicant rejected based on credit bureau data." Although such general reasons may be provided to the applicant as a last resort, it is preferred that a more specific reason be given. To that end, a step 806 checks whether any of the FICO reasons have been mapped to any specific rejection reasons. If all of the FICO reasons map only to the general reason, then control is transferred to a step 808.

[0084] In step 808, the rejection process begins to attempt to find a more appropriate reason for rejection of the applicant. First, the results of the various attribute tests generated by the Underwriter are obtained. In a step 810, it is checked whether any of the attribute test results map to an appropriate rejection reason. If an attribute test result maps to an appropriate reason, then control is transferred to a step 812 and the attribute reason is assigned as the reason given to the applicant upon rejection. If the attribute test does not map to an appropriate reason, then control is transferred to a step 816 and a general reason is assigned as the reason given to the applicant upon rejection. If, in step 806, it was determined that one or more of the FICO score factors identified by the credit bureau correspond to an acceptable rejection reason other than the general rejection reason, then that reason is assigned as the reason to be given to the applicant in a step 814. Whether or not a specific reason is identified by that above mentioned steps, control is transferred to a step 818 where the reason is displayed to the applicant and the process then ends at 820.

[0085] FIG. 8B is a diagram illustrating one data structure used to map main FICO factors provided by the credit bureau (referred to as external codes) to internal decline codes as well as reasons for rejection to be provided to rejected applicants. It should be noted that although a table is shown, other data structures such as a linked list are used in other embodiments. Each external code maps to an internal code that corresponds to an internal reason for rejecting the applicant. The actual reason is also stored for each internal code. As described above, certain external codes correspond to internal codes that provide only a general rejection reason. Other external codes are mapped to internal codes that allow a specific rejection reason to be given.

[0086] Once an appropriate rejection reason is selected, it is necessary to display the reason to the applicant. In one embodiment, the reason is displayed on a web page along with an acknowledgement button that allows the applicant to acknowledge that he or she has read the rejection message.

FIG. 9 is a flow chart illustrating how a rejection reason may be obtained. The process starts at 900. In a step 902, the reason for rejection is retrieved. Next, in a step 904, the rejection reason is displayed. In addition, in a step 906, a link to a credit counseling site is also displayed. The acknowledgement button is displayed in a step 908. When the applicant leaves the rejection page, a step 910 checks whether the acknowledgement button has been activated. If the button has been activated, then control is transferred to a step 912 where the application is marked as having had an acknowledgement to a rejection. If the acknowledgement button has not been activated, then control is transferred to a step 914 and the application is marked as not having had an acknowledgement to a rejection. The process ends at 916.

[0087] It should be noted that other methods of verifying that a rejection has been received are used in other embodiments. For example, in one embodiment, an applet is sent along with the rejection that sends a message back to the credit approval system when the rejection message page is completely downloaded by the applicant. In this manner, the fact that a rejection was delivered to the applicant can be verified without requiring any action by the applicant.

[0088] Once the rejection has been sent and acknowledged or not, the rejection or acknowledgement status may be provided to an entity such as FDR for the purpose of generating hard copies of rejection letters and either sending such hard copies as confirmations to all rejected applicants or else, in some embodiments, only sending hard copies of rejection letters to applicants that have not acknowledged an on line rejection.

[0089] Accepted applications have an accepted status and they also contain important applicant information supplied by the applicant and obtained from the credit bureau reports that can be used to design a custom account level offer for the applicant. Preferably, multiple offers are presented to the applicant, allowing the applicant to select an offer that includes terms that the applicant desires to accept.

[0090] FIG. 10A is a flowchart illustrating a process for providing a set of multiple offers to an applicant and receiving a balance transfer amount corresponding to an offer selected by the applicant. The process starts at 1000. In the step 1002, the application object is retrieved. The application object includes the information provided by the applicant as well as information obtained from credit bureaus and analyzed by the Underwriter.

[0091] Next, in a step 1004, offer selection criteria are obtained from the credit report object. In one embodiment, the offer selection criteria include FICO score, income and a balance transfer requirement. Offer selection criteria also may include data entered by the applicant. The offer selection criteria also may include other attributes such as time on file. In general, the offer selection criteria are selected from information obtained from the applicant and from the credit bureaus for the purpose of estimating the applicant's risk of default to determine an expectation of future loss as well as an expected future total revolving balance (TRB). In this manner, an appropriate offer may be determined. In one embodiment, the balance transfer requirement is calculated as a selected percentage of the applicant's TRB. As described below, different offer terms may be provided for different balance transfer requirements. As noted above, in other embodiments, other data structures than the application object are used to store this information.

[0092] Next, in a step **1006**, a set of offers is derived from the credit report data and other applicant information stored in the application object. In a step **1008**, the set of offers is displayed. In one embodiment, the offers are derived from the FICO score and income of the applicant, which determine the risk of default, and also from a balance transfer amount specified in the offer. The balance transfer amount may be determined as a percentage of the total revolving balance that the applicant has on all outstanding credit cards in the credit report for the applicant. Both the credit limit offered to the applicant and the interest rate offered to the applicant may vary according to the amount of the total revolving balance that the applicant chooses to transfer to the new account.

[0093] In addition offers may present incentives such as frequent flier miles, cash back on purchases, or favorable interest rates.

[0094] In a step **1010**, the system notes the selected offer and balance transfer amount. Next, in a step **1012**, the system obtains the balance transfer amount from the applicant. Preferably, the balance transfer is actually executed while the applicant is on line. The process for obtaining and executing the balance transfer in real time on line is described further in FIG. **13**. Once the balance transfer is executed, a data file is assembled for transmission to FDR for the purpose of issuing a credit card in a step **1014**. The process ends at **1016**. Thus, the system derives a set of offers based on information from the applicant's credit reports and displays the set of offers to the applicant. The applicant then can select an offer based on the amount of balance transfer that the applicant wishes to make. Once the applicant selects an offer and a balance transfer amount, the system actually executes the balance transfer by allowing the applicant to select the accounts from which to transfer balances. Once the balance transfer is executed, the data relating the application is assembled and sent to FDR.

[0095] In different embodiments, the system uses different methods of determining the terms of the offer extended to the applicant based on the information derived from the credit report. FIG. **10B** is a flow chart illustrating one such method of deriving a credit limit for an applicant based on the applicant's FICO score and income, as well as the amount of total revolving balance that the applicant elects to transfer. The process starts at **1020**. In a step **1022**, the system obtains applicant information and the credit bureau information. This information may include the FICO score and income of the applicant. Next, applicant information and the credit bureau information are used to determine an expected unit loss rate for the applicant. In a step **1024**, the unit loss rate corresponds to the probability that the applicant will default on the credit line extended. That probability multiplied by the credit limit extended to the applicant determines the dollar loss rate for that applicant. The dollar loss rate divided by the average total outstanding balance of the account is the dollar charge off rate for the applicant.

[0096] In one embodiment it is desired that a dollar charge off rate be kept within a determined range for different applicants. To accomplish this, it is desirable to extend smaller amounts of credit to applicants with a higher probability of defaulting. It is also useful to extend different amounts of credit based on a total outstanding balance transferred by the applicant since the balance transfer influences the likely future total outstanding balance of the account. Conventional offer systems have been able to extend offers to applicants with credit limits that are controlled by the applicant's predicted average dollar loss. However, prior systems have not

been able to extend credit and determine a credit limit based on a predicted total outstanding balance for the client because they have failed to be able to present offers and condition the acceptance of the offers in real-time on a balance transfer made by the applicant.

[0097] Next, in a step **1026** the system determines one or more balance transfer amounts based on the total revolving balance that the applicant has in various other credit card accounts. In one embodiment, the balance transfer amounts are calculated based on different percentages of the total revolving balance determined from all of the applicant's accounts found in the credit report. Then, in a step **1028**, the system calculates for each total balance transfer amount choice that will be presented to the applicant, a predicted estimated revolving balance for the future that the applicant would be expected to maintain. The estimated total revolving balance may be equal to the balance transfer amount or may be a function of the balance transfer amount. In one embodiment, the estimated total revolving balance does not depend on the balance transfer amount. In one embodiment, four possible percentages of the applicant's total revolving balance as determined by the credit report are presented to the applicant. Those choices are none of the balance, one-third of the balance, two-thirds of the balance, and the full balance. Depending on which of those amounts is selected by the applicant, the system calculates a predicted total revolving balance for the future. Then, in a step **1030**, the credit limit for the applicant is set to achieve a target dollar charge off rate based on the amount of the total revolving balance that the applicant elects to transfer and the risk of default. The process then ends at **1032**.

[0098] The process described in FIG. **10B** shows conceptually how a credit limit could be determined based on an amount of balance transfer and a FICO score and income. This process may be implemented directly in some embodiments. However, in other embodiments, it is preferred that a table be precalculated that includes amounts of credit limit that the applicant will be given based on certain amounts of balance transfer and FICO score. Using such a table, the applicant's FICO score and balance transfer amount may be looked up and then the credit limit may be found in the corresponding cell. FIG. **10C** is a table illustrating how this is accomplished. Each row of the table corresponds to a different FICO score, and each column of the table corresponds to a different balance transfer amount. When the cell corresponding to the FICO score and balance transfer amount is determined, the credit limit obtained. A cut-off line **1040** is also shown which represents an upper limit for a balance transfers for a given FICO score.

[0099] In the embodiment described above, separate tables are prepared for applicants of different incomes. In addition, separate tables may also be prepared for applicants having other different characteristics such as time on file for the applicant. It should be noted that the tabular representation of the data is presented as an example only and the data may be represented in many ways including in three-dimensional or four-dimensional arrays, linked lists or other data representations optimized for a particular system. By allowing the account credit limit to be a function of FICO score, balance transfer, and income, a credit limit may be selected for each individual account that enables the dollar charge off rate for all applicants to be controlled.

[0100] FIG. **11** is another data representation illustrating another embodiment of how the offers may be determined

based on FICO score, income range, income, and total revolving balance transfer. A single table includes a range of FICO scores **1108**, an income range **1110**, a balance transfer column **1112**, and four offer columns, **1114**, **1116**, **1118**, and **1120**. Each of the offer columns includes a link to a web page that describes the offer in more detail. Once the proper row of the table is found, multiple offers may be displayed to the applicant by assembling the various links either in a single frame or in consecutive frames for the applicant to view and select an offer.

**[0101]** Another component of the offer granted to the applicant that may be varied based on the balance transfer selected is a teaser rate or annual rate. A teaser rate is an interest rate that is temporarily extended to the applicant either on the amount transferred or on the amount transferred and purchases made for a certain period of time. The teaser rate is intended to incent the applicant to transfer a greater balance to a new account. In one embodiment, the teaser rate is determined based on the percentage of the applicant's total revolving balance that the applicant elects to transfer. Thus, the amount transferred by the applicant controls not only the applicant's credit limit but also determines a teaser rate extended to the applicant.

**[0102]** FIG. 12 is a diagram illustrating a display provided to the applicant for the purpose of presenting multiple offers to the applicant. The display includes a first offer **1204**, a second offer **1206**, a third offer **1208**, and a fourth offer **1210**. For each offer, there is a column **1214** corresponding to the initial teaser rate, a column **1216** corresponding to the annual fee offer, a column **1218** corresponding to the credit limit, and a column **1220** corresponding to the required balance transfer for that offer to be accepted. The applicant selects one of the offers from the table. As noted above, in one embodiment, the offers are provided as part of a web page and the offers are presented using html. By selecting an offer, the applicant selects a link that indicates to the system which offer is selected. Once an offer is selected, the process of acquiring the required balance transfer in real-time from the applicant is executed. That process is described further in FIG. 13.

**[0103]** FIG. 13 is a flow chart illustrating a process for obtaining a real-time balance transfer from an applicant. The process starts at **1300**. In a step **1302**, the system retrieves the accounts and balances that the applicant has based on the credit report data obtained for the applicant. Next, in a step **1304**, the estimated balances for each of the accounts that were retrieved in step **1302** are presented to the applicant and the accounts are identified. Identification of the accounts is a sensitive issue because the specific account data for the applicant is confidential and if the information is displayed to an unauthorized person, fraud could result. Therefore, in one embodiment, a partial account number that lists the account granting institution as well as part of the account number for the account held by the applicant with that institution is displayed. Generally, this information is sufficient for the applicant to recognize the account, but is not enough information to present a fraud risk.

**[0104]** It should be noted that in some embodiments, the accounts chosen for display by the underwriter are selected in a manner to facilitate a simpler balance transfer. For example, the largest account balances may be displayed first so that amounts may be efficiently transferred to meet the required transfer. Also, a group of balances to transfer may be presented to the applicant by highlighting certain accounts.

**[0105]** Next, the applicant is given an opportunity to indicate a balance transfer by selecting one of the accounts and indicating the amount to be transferred. It should be noted that the applicant in this manner does not need to provide account information to execute a balance transfer. If a transfer is indicated, control is transferred to a step **1306** and the amount of the user balance transfer is obtained. Next, in a step **1307**, it is determined whether the sum of the balance transfers is greater than or equal to the required transfer amounts for the offer selected by the applicant. If the amount is not greater than or equal to the required-transferred amount, then control is transferred back to step **1304** and the applicant is given an opportunity to select further balances to transfer. If the amount of the balance transfers is greater than or equal to a required transfer amount, then control is transferred to a step **1308** and the system requests final confirmation from the applicant of the balance transfers. If it is determined in a step **1310** that a confirmation of the balance transfer has been received, then control is transferred to a step **1312** and the balance transfers are executed. The process ends at **1314**.

**[0106]** If in step **1304**, it is determined that the applicant has elected to exit the balance transfer screen instead of indicating a balance transfer, or if it is determined in step **1310** that the applicant elects not to confirm the balance transfer amounts selected, then control is transferred to a step **1316** and the applicant is returned to the offer selection screen so that the applicant will have an opportunity to select another offer that either does not require a balance transfer or requires less of a balance transfer. The process then ends at **1314**.

**[0107]** FIG. 14 is a block diagram illustrating one computer network scheme that may be used to implement the system described herein. An applicant host system **1402** is connected to the Internet **1404**. The applicant host system may be a PC, a network computer, or any type of system that is able to transmit and receive information over the Internet. Also, in other embodiments, a private network such as a LAN or WAN or a dedicated network may be used by the applicant to communicate. A web server **1406** is also connected to the Internet and communicates with the applicant host system via the Internet to request receive applicant information and to notify the applicant of the results of the approval process. Web server **1406** in one embodiment accesses a business logic server **1408** that implements the various approval checking processes described herein. It should be noted that in some embodiments, the web server and the business logic server are implemented on a single computer system with one micro-processor. However, for the sake of efficiency, the system implemented as shown is often used with different servers dedicated to communicating with applicants and processing applicant data, respectively. The business logic server, wherever implemented, includes a communication line on which communication may be had with credit bureaus or other outside data sources. In some embodiments, an Internet connection may be used for that purpose. Thus applicant data is obtained by the business logic server either over the Internet either directly or through a Web server. Also, data may be obtained by the business logic server from an applicant using a direct dial in connection or some other type of network connection.

**[0108]** A real time credit approval system has been described herein primarily for the purpose of determining whether a credit card should be issued to an applicant. Software written to implement the system may be stored in some form of computer-readable medium, such as memory or CD-

ROM, or transmitted over a network via a carrier wave in the form of Java® applets, other forms of applets or servlets, and executed by a processor. The system may be implemented on a PC or other general purpose computer known in the computer art.

**[0109]** It should be recognized that the system described may also be used for the purpose of granting credit to an applicant for the purpose of making a single transaction. In such a system, a transaction is interrupted and the application for credit is made. Based on the real time approval decision made, credit may or may not be granted for the purpose of completing the transaction.

**[0110]** Referring now to FIGS. 15-27, system for providing an applicant with a counter offer of credit when the applicant rejects a first offer is disclosed. In one embodiment, an applicant who requests a counter offer is directed to a chat agent. The applicant ID is transferred to the chat agent so the chat agent can access information about the state of the applicant's application. Using the chat interface, the applicant explains to the chat agent why the original offer was not acceptable and the chat agent interacts with an application database to determine a counter offer. The counter offer is transferred to the applicant through an application server.

**[0111]** In one embodiment, a method of offering credit to an applicant includes determining a plurality of offers using information about the applicant. A displayed offer is displayed and a withheld offer is withheld. An indication that the displayed offer is unacceptable is received and the withheld offer is displayed.

**[0112]** In one embodiment, a method of offering credit to an applicant includes determining a plurality of offers using information about the applicant. A displayed offer is displayed and a plurality of withheld offers are withheld. An indication that the displayed offer is unacceptable is received including an indication that an attribute is unacceptable. A selected withheld offer is selected using the attribute that is unacceptable and the selected withheld offer is displayed.

**[0113]** In one embodiment, a method of offering credit to an applicant includes determining a plurality of offers using information about the applicant. A displayed offer is displayed and a plurality of withheld offers are withheld. An indication that the displayed offer is unacceptable is received including an indication that a plurality of attributes are unacceptable. A primary unacceptable attribute is determined and a selected withheld offer is selected using the primary unacceptable attribute. The selected withheld offer is displayed.

**[0114]** In one embodiment, a method of offering credit to an applicant includes determining an offer using information about the applicant and displaying the offer to the applicant. An indication that the displayed offer is unacceptable is received. An attribute of the offer that is unacceptable is determined. In the event that the unacceptable attribute is the amount of the credit limit; the credit limit is recalculated for the applicant.

**[0115]** In one embodiment, a method of offering credit to an applicant includes determining a first offer using information about the applicant and displaying the first offer to the applicant. A chat interface is activated between the applicant and a customer service agent. A second offer for the applicant is determined based on chat between the applicant and the customer service agent and the second offer is displayed to the applicant.

**[0116]** In one embodiment, an application server for providing a counter offer of credit includes an applicant interface

configured to receive applicant data from an applicant browser and to communicate an offer of credit to the applicant and the counter offer of credit to the applicant. A processor is configured to determine the offer of credit based on the applicant data and the counter offer of credit based on an unacceptable attribute of the first offer of credit and an agent interface is configured to receive the unacceptable attribute from an agent.

**[0117]** In one embodiment, a chat server for providing a counter offer of credit includes an applicant interface configured to receive chat from an applicant. An agent interface is configured to receive chat from an agent and an unacceptable attribute determined from the chat from the applicant. An application server interface is configured to send the unacceptable attribute and to receive a counter offer.

**[0118]** In one embodiment, an applicant client for obtaining a counter offer of credit includes an application server interface configured to send applicant information and to receive and offer of credit and a counter offer of credit. A chat server interface is configured to be activated upon an indication that the offer of credit is not acceptable.

**[0119]** In one embodiment, an applicant interacts with a web server and receives a web page containing offers of credit that may be accepted by the applicant. At any point during the interaction with the web server, an online chat button or process may be activated that sends an applicant ID to a chat server and opens a chat window so that the applicant can receive help. In one embodiment, the help takes the form of the applicant describing why a displayed offer is unacceptable and a counter offer being generated for the applicant.

**[0120]** FIG. 15 is a block diagram illustrating a system for providing real time chat help to an applicant and generating a counter offer when appropriate. A web server 1502 is in communication with an application database 1503. Application database 1503 is used to store information about the applicant and the application. The information stored includes information provided by the applicant as well as information derived from various credit bureaus (not shown) that are accessed by the web server either directly or indirectly. Each application included in the application database is referenced by an applicant identifier that can be used to identify the application.

**[0121]** Web server 1502 provides a web page 1504 to a browser 1506. Typically, the web server and browser communicate over the Internet using HTTP. Web page 1504 is shown for the purpose of illustration as an offer web page that includes three offers made to the applicant for a credit card as well as an on-line chat button that may be activated by the applicant to obtain help or to discuss the offers. Other web pages provided by the web server include forms that the applicant fills out to provide information so that a credit report may be obtained and an offer of credit generated based on the applicant's personal information.

**[0122]** An online application process for a credit card is described in detail in U.S. patent application Ser. No. 09/185,201, entitled: "Method And Apparatus For Real Time Online Credit Approval", filed Nov. 17, 1998, which was previously incorporated by reference; and U.S. patent application Ser. No. 09/185,878, entitled: "Method And Apparatus For A Verifiable Online Rejection Of An Applicant For Credit", filed Nov. 17, 1998, which was previously incorporated by reference; and U.S. patent application Ser. No. 09/185,000, entitled: "Method And Apparatus For An Account Level



Offer Of Credit And Real Time Balance Transfer”, filed Nov. 17, 1998 which was previously incorporated by reference.

[0123] It should be noted that the process described herein will refer to the online credit application as being an application for a credit card. The process can also be applied to other offers of credit including an offer of instant credit for the purpose of consummating a single pending online transaction. In addition, the system and processes disclosed herein may be applied to other types of business transactions over the Internet. However, the particular architecture and processes described are especially useful for processing online credit card applications and the benefit of their application to online credit card applications is particularly strong.

[0124] Web server 1502 and browser 1506 continue to interact in a standard fashion with web pages being provided by web server 1502 and the applicant filling out information as needed. At some point, an applicant may activate the online chat button included on the web page and a chat window 1504a opens up for the chat application and a connection is established with a chat server 1508. As is described further below, the chat window is opened and the connection with chat server 1508 may be initiated by events other than just the activation of the online chat button. Chat server 1508 implements a standard chat environment such as the chat environment available from e-share. Other chat environments may be used that include the ability to pass a variable to the chat server from the browser.

[0125] The various servers shown in FIG. 15 may be implemented on any typical platform such as a Windows NT platform, a Linux platform, or other UNIX platform or other commercially available web server platform. The browser may be implemented on any system such as a Macintosh or a PC which are readily available.

[0126] In some embodiments, the chat process is initiated when the applicant cancels out of the application. In other embodiments, the chat process is initiated when the applicant lingers on a page for an amount of time that exceeds a threshold. In other embodiments, the chat process is initiated when the applicant's response to a request for information is somehow inadequate. For example, it may be detected that the answers provided by the applicant are incomplete or in the wrong form. The chat process may be initiated for the purpose of providing the applicant more detailed instructions or pointing out to the applicant the information that is required to complete the application.

[0127] In addition to opening the chat connection to chat server 1508, browser 1506 also sends the applicant identifier to the chat server. The chat server then uses the applicant identifier to access information about the application in the application database. It should be noted that the applicant identifier may be used as an application identifier in circumstances such as would be expected for an online credit card application where there is one and only one application per applicant. In other embodiments, an application identifier that is unique for each application is assigned and used. In this description, wherever an applicant identifier is mentioned, an application identifier could also be used.

[0128] Sending the applicant identifier to the chat server instead of sending the current web page or other information to the chat server is preferable from a security standpoint because the applicant identifier can only be used to obtain information about the application by accessing application database 1503. In addition, preferably, the applicant identifier is encrypted, adding a further level of security.

[0129] In the embodiment shown, chat server 1508 does not have a direct link to the application database 1503. Chat server 1508 is connected to a customer service agent 1510. Customer service agent 1510 handles the chat session, responding to requests made by the applicant. Other customer service agents 1512 and 1514 are also standing by to handle other chat sessions generated by chat server 1508. In one embodiment, requests made to the chat server are queued and the next available customer service agent is assigned to the first chat session request found in the queue.

[0130] Customer service agent 1510 is connected to a counter offer server that is connected to application database 1503. By passing the applicant identifier from the chat server to the customer service agent to the application database through the counter offer server, information about the applicant can be obtained from the application database. Connections from the customer service agent to the counter offer server and from the counter offer server to the application database may be made over the Internet or may be a dedicated secure connection.

[0131] In the embodiment shown, which is adapted specifically for implementing a counter offer strategy as is described below, a separate web server 1502 and counter offer server 1520 are shown. This divides the processing demand generated by normal communication with a browser from the processing demand generated by interaction initiated by chat with a customer service agent. This architecture is particularly useful since the two types of traffic are isolated. In other embodiments, the functions of the web server and the counter offer server are performed by a single application server. Dashed box 1522 represents a single application server that may include both the web server and the counter offer server. In general, the term application server is used to describe either the web server and counter offer server operating collectively or to describe a single server performing both the function of the web server and the counter offer server.

[0132] Additionally, in a system where a counter offer is not generated, counter offer server 1520 may be referred to as a customer service agent server or some other term describing its primary function. The important point is that both the web server and the counter offer server both access the application data base to obtain information about the status of the application. In addition, both the web server and the counter offer server may write data to the application database in some embodiments. The common access to the application database enables the customer service agent to obtain information about the status of the application using the applicant identifier received through the chat server and also allows the customer service agent to alter the status of the application based on information received from the applicant through the chat server by sending that information to the counter offer server for posting to the application database.

[0133] Thus, an applicant provides information to database 1503 via the Internet using web pages in a standard manner. In addition, the applicant may communicate via chat with a customer service agent who also is connected to the application database and may change the state of the application according to information received by the applicant via chat. In the embodiment shown, the customer service agent interacts with a special purpose counter offer server that uses the information provided by the applicant to determine a counter offer using information in the application database. The counter offer is stored in the application database and provided to the applicant's browser via the web server. As noted

above, the counter offer server and the web server may be implemented on a single machine referred to as the application server. The various processes operating on the application server, the chat server and the browser are described below for the purpose of illustrating how the chat window may be activated and a counter offer generated for the applicant.

[0134] FIG. 16 is a flowchart illustrating a general process implemented on the chat server. The process starts at 1600. In a step 1602, the applicant identifier is obtained from a browser. In a step 1604, the chat server validates the applicant information by communicating with the application database. In some embodiments, the chat server may communicate directly with the application database. In other embodiments, as shown in FIG. 15, the chat server communicates with the application database through an application server. After the applicant information is validated, a response is received from the applicant via chat. Based on the response, the applicant account is configured in a step 1608 and the process ends at 1610.

[0135] FIG. 17 is a flow chart illustrating a general process implemented on the web server for sending dynamic web pages to the applicant. The dynamic web pages differ from a standard web page used to interact with the applicant because they contain a page object used to initiate a chat section with a chat server upon the occurrence of certain events. The page object includes an applicant identifier that is passed to the chat server. The process starts at 1700 when chat is initiated based on a user action. As described above, the user action may be the activation of a help or chat button or the user canceling out of the application. Chat may also be activated by user inaction when a response is not received or by an improper action taken by a user resulting in an invalid response. In a step 1702, the state of the application is determined. Next, in a step 1704, the content of the page to be sent to applicant is determined based on the state of the application. Next, in a step 1706, the applicant identifier is inserted into a page object. In a step 1708, the page is sent to the applicant browser and the process ends at 1710.

[0136] FIG. 18 is a flow chart illustrating a process implemented on a browser for establishing a connection to a chat server. The process starts at 1800. In a step 1802, a link to the chat server is activated either directly by the user or as a result of the occurrence of an event as described above. In a step 1804, a connection is established to the chat server. Typically the connection uses a protocol such as HTTPS. Next, in a step 1806, the applicant identification is sent to the chat server and the process ends at 1808.

[0137] FIG. 19 is a flowchart illustrating a typical process implemented on the browser for the purpose of initializing chat when the user does not respond to a downloaded web page in a certain period of time. The process starts at 1900. In a step 1902, a timer is initialized. Control is then transferred to 1904 where periodic checks are made to determine whether the timer has expired. If a valid user input is received, control is transferred to a step 1906 and the timer is reset. If the timer expires, then control is transferred to a step 1908 and a chat session is initiated as described above. The process then ends at 1910.

[0138] FIG. 20 is a flow chart illustrating a process implemented on a chat server when a chat session is requested by a browser as described above. The process starts at 2000 when the request is received. The request for a chat session includes both a connection request and the applicant identifier. In a

step 2002, the request is put into a queue and the applicant identifier is stored in a manner that associates it with the request. In some embodiments, the chat server uses the applicant identifier while the request is still in the queue to obtain the application information from the application database. In other embodiments, the applicant identifier is not used to access the application database until the request is assigned to a customer service agent. This insures that when the customer service agent accesses the information about the application, the information is up to date. In a step 2004, a status message is sent to the user and the system then waits for an available customer service agent. So long as no customer service agent is available, the system continues to wait at 2004. When a customer service agent becomes available, control is transferred to a step 2006 and the application information is sent to the customer service agent. The customer service agent then uses the application information to discuss the state of the application with the applicant.

[0139] FIG. 21A is a flow chart illustrating a process implemented at a customer service agent for the purpose of supporting the chat session. The process may be implemented on a client machine accessed by the customer service agent or may be implemented on the application server which may include a dedicated counter-offer server. The process starts at 2100. In a step 2102, the customer service agent notifies the chat server that it is available. Next, in a step 2104, the applicant identifier is received from the chat server. In a step 2106, the applicant record in the application database is accessed using the applicant identifier as mentioned above. The application record may be accessed either directly or via the application server. In a step 2108, the chat server displays the application data retrieved using the applicant identifier to the customer service agent. In one embodiment, the application data is displayed by displaying the same web page that the applicant is viewing. In addition, the web page may be augmented with other information about the status of the application. Alternatively, a completely separate application information screen may be displayed to the customer service agent.

[0140] In an embodiment where a counter offer is generated by the customer service agent, a display is provided showing various offer terms that the applicant may indicate are not acceptable in the chat between the applicant and the customer service agent. The customer service agent may check one or more of the terms and the terms checked by the customer service agent are sent to the counter offer server to be used in generating a counter offer. The terms or attributes of the offer that the applicant considers to be unacceptable are obtained in a step 2112 and the initial process for receiving applicant information and providing information to the counter offer server ends at 2114.

[0141] It should be noted that a number of different methods of obtaining the unacceptable terms from the applicant may be used. In one embodiment, as described above, a set of offer terms are shown to the customer service agent and the customer service agent selects terms identified by the applicant in chat that are unacceptable. In other embodiments, a display of terms is provided to the applicant and the applicant picks the unacceptable terms with the aid of the customer service agent. In yet another embodiment, the chat generated by the applicant is automatically analyzed by a program which generates the list of unacceptable terms for the counter offer server.

[0142] FIG. 21B is a screen shot illustrating a display of offer terms used in one embodiment for determining which terms are unacceptable. The display includes indications that interest rate attributes are not acceptable, indicating that the annual percentage rate or long term interest rate is too high, a longer introductory interest rate is desired, or an introductory interest rate is desired. The introductory interest rate is a very low rate offered for a short period of time when the account is established, also referred to as a teaser rate. In addition, buttons are provided for the customer service agent to check whether the credit limit is too low either for purchases or for balance transfers. In addition, the customer service agent can fill in a balance transfer amount that the applicant wants to transfer as well as a requested credit limit. Finally, a box is provided for the customer service agent to check and send the data to the counter offer server.

[0143] FIG. 22 is a flow chart illustrating in detail a process implemented in step 2112 for obtaining the unacceptable terms of an offer from an applicant. The process starts at step 2200. In a step 2202, a chat message is received from a user indicating a term that the user would like to change. The message is displayed to the customer service agent along with a checklist as shown in FIG. 21B illustrating terms to change. As noted above, the checklist may also be displayed and checked by the applicant. In a step 2206, an input is received from the customer service agent of a selected term that the applicant would like to change of an offer. In a step 2208, the term is sent to the counter offer server and the process ends at 2210.

[0144] FIG. 23 is a flow chart illustrating the process implemented on the counter offer server when more than one term is selected as being unacceptable to the applicant. In one embodiment, a counter offer is selected based on only one unacceptable term being changed. This simplifies the process of determining a counter offer since changing two terms is somewhat more complex. Therefore, a hierarchy of terms that may be changed by the applicant is provided and the highest priority term selected is used to determine the counter offer. All of the unacceptable terms are still transmitted to the counter offer server and recorded for the purpose of data gathering and analysis of the system. The process starts at 2300. In a step 2302, multiple unacceptable terms or attributes of the offer are received by the counter offer server. Next, in a step 2304, the highest priority term or attribute that is unacceptable is determined. Next, in a step 2306, the offer is adjusted and a counter offer is determined based on the highest priority term. The process ends at 2308.

[0145] Many different methods may be used by the counter offer server to generate a counter offer based on attributes or terms identified by the applicant as being unacceptable. In one embodiment, a number of potential offers are identified based on the applicant information provided and an assessment of the risk associated with extending credit to the applicant. Some of the generated offers are withheld while others are displayed to the applicant. A number of schemes may be used to decide which offers are displayed and which offers are withheld. Some methods may include a statistical selection or a selection according to a marketing scheme designed to increase the rate of acceptance. It may also be the case that the best offer is withheld and kept in reserve to use as a counter offer. In general, certain potential offers are withheld.

[0146] The identification by the applicant of an unacceptable term is used by the counter offer server to identify a better offer for the counter offer. In one embodiment, offer strategies

are identified and the counter offer is identified by simply looking up an offer strategy associated with the applicant and the identified unacceptable term. In one embodiment, an offer strategy may include a set of offers shown to the applicant as well as offers that are not displayed and that correspond to various unacceptable terms. When an unacceptable term is identified, the offer corresponding to the strategy and the unacceptable term is used as the counter offer.

[0147] In some embodiments, the counter offer strategy is dependent on characteristics of the applicant. For example, the applicant may be classified as a “surfer” or “non-surfer”. A “surfer” is a person who shifts or surfs balances among credit cards, taking advantage of low teaser rates. A determination that an applicant is a surfer is made based on an analysis of the applicant’s credit report. A counter offer strategy designed for such an applicant may adopt the strategy of extending the period of an introductory rate if requested by the applicant, but requiring the applicant to make a certain number of purchases or not transfer the balance for a certain period of time.

[0148] In general, added terms and conditions such as purchase requirements or a length of time that a balance may not be transferred from the card may be added to counter offers for the purpose of creating a perceived barrier to receive the counter offer. Such a barrier or condition prevents the applicant from deciding that the first offer should always be rejected. In some embodiments, the conditions are determined based on characteristics of the applicant. As described above, surfers may receive balance transfer restrictions.

[0149] In addition to selecting a withheld offer based on a pre-determined offer scheme, the counter offer server may also recalculate a customized offer based on the identification of an unacceptable term and an actual requested term by the applicant. For example, the applicant may express that the credit limit is too low, either for a desired balance transfer that the applicant wants to make or new purchases. The amount of the credit limit minus the amount of the balance transfer is referred to as the amount of credit that is “open to buy”. The information sent to the counter offer server may include a requested credit limit and a requested balance transfer amount. From that information, the counter offer server can determine that the offer credit limit is too low either for the balance transfer requested or for the amount that the applicant wants open to buy. To minimize risk, it is desirable that the credit limit be as low as possible. Therefore, it is desirable not to simply select a withheld offer with a higher credit limit, but instead to customize an offer that conforms to the applicant’s request but does not exceed the applicant’s request.

[0150] Accordingly, a new credit limit may be calculated that incorporates the requested balance transfer and the amount that the applicant wants open to buy. The calculated new offer is of course checked versus the risk profile of the user and it is verified that the higher credit limit is appropriate for the user. Any of the various techniques well known in the art of assigning credit may be used to assess the risk of the applicant and determine an appropriate upper credit limit. Significantly, the counteroffer in the case of a requested higher credit limit is specifically customized for the applicant based on what the applicant requests. In general, any counter offer provided is based on the applicant’s identification of an unacceptable term. In some embodiments, if no counter offer is available that improves an unacceptable term identified by the applicant, then a message is returned to the applicant either directly or through the chat interface that indicates that

no counter offer can be provided at that time. For example, in one embodiment, the offer strategy may include an offer with the best annual percentage rate available in the set of offers initially displayed to the applicant. In such a case, if the applicant identifies the annual percentage rate as the unacceptable term, then no counter offer improving that term can be generated.

[0151] FIG. 24 is a flow chart illustrating an example process for generating a counter offer. The process starts at 2400. In a step 2410, the counter offer server receives the term that is to be changed. Next, in a step 2420, it is determined whether the term is the credit limit or not. If the term is not the credit limit, then control is transferred to a step 2430 and a precomputed offer that was withheld is determined for display. The counter offer determination process then ends at 2440. If the term is the credit limit, then control is transferred to a step 2450 and it is determined whether the credit limit is too low for a requested balance transfer or for new purchases (open to buy). If the credit limit is too low for new purchases, then control is transferred to a step 2460 and the required balance transfer and credit limit are adjusted if that is allowed by the scheme being used to assign credit based on an assessment of the applicant's risk.

[0152] If the credit limit is too low for a requested balance transfer, then control is transferred to a step 2470 and the credit limit is adjusted based on the balance transfer requested if allowed by the credit line assignment being used. After the credit limit is adjusted in steps 2460 or 2470, the counter offer is defined and the counter offer determination process ends at 2480. Whether a precomputed offer is determined for display in 2430 or the credit limit is recomputed in step 2460 or 2470, if no better offer can be generated, then a message noting that no better offer can be generated is sent either to the chat server or to the applicant directly.

[0153] Once a counter offer has been defined or it has been determined that no counter offer that improves the unacceptable terms can be generated, the applicant is notified of the counter offer terms. In different embodiments, notification may be accomplished in various ways. For example, in one embodiment, a new offer page is generated in the application server based on data written to the application database by the application server. In the embodiment where the application server is split into a web server and a counter offer server, the counter offer server writes data to the application database and the web server generates a counter offer page based on the data written to the application database. In addition, the application server also provides information to the chat server indicating what counter offer, if any, has been generated. The customer service agent then discusses the counter offer with the applicant via the chat interface. In order to view the counter offer page generated by the web server, the applicant is asked to refresh his browser. Refreshing the browser causes the offer page to be requested from the web server and the web server responds with the counter offer page. In one embodiment, a button labeled "view offer" is provided on the displayed page. When the button is selected, the page is downloaded again and any changes are then viewed by the user.

[0154] In other embodiments, the displaying of the counter offer page to the applicant is handled somewhat differently. In one embodiment, the chat server enables the display of the page through the applicant's browser automatically, without requiring the applicant to refresh the screen. This can be accomplished in a variety of ways. In one embodiment, the chat server writes a variable to a memory location that the

browser checks periodically. When the browser checks the location and finds a variable indicating that the counter offer page should be downloaded, the browser automatically refreshes itself. The applet that enables the browser to check the location and refresh itself may be used in some cases but not others. When such an applet is not used, the process of instructing the applicant through the chat interface to refresh his own browser or to select a button to view the offer may be implemented.

[0155] FIG. 25 is a flowchart illustrating a process implemented on a counter offer server to generate and confirm a new offer for display to the applicant. The process starts at 2500. In a step 2510, the counter offer server receives a chat generated term to change. As described above, the term can be identified based on chat by a customer service agent or the term can be automatically determined by analysis of the chat provided by the applicant or the term can be identified using a pick list provided to the applicant. In a step 2520, a new offer is selected from an offer set included in the offer strategy being used for the applicant. As described above, in some embodiments, a new offer is actually calculated based on information provided by the applicant such as a requested credit limit. Next, in a step 2530, the new offer is displayed to the customer service agent. The customer service agent then communicates with the applicant about the new offer to determine the applicant's interest. The customer service agent then confirms to the counter offer server that the new offer is to be shown to the applicant. The confirmation is received in step 2540 and in a step 2550, the counter offer server confirms the new offer in the data base so that it is ready to be displayed when the applicant's browser refreshes. The process then ends at 2560.

[0156] In some embodiments, the new offer is confirmed in the database concurrent with it being displayed to the customer service agent. Then, whenever the applicant's browser refreshes, the counter offer will be displayed. In some embodiments, it is desired that the display of the counter offer not be enabled until customer service agent has an opportunity to chat with the applicant about the new offer and confirm that display is appropriate.

[0157] FIG. 26 is a flowchart illustrating a process implemented on the web server portion of the application server for the purpose of displaying a new counter offer to the applicant. The process starts at 2600. In a step 2610, the web server receives a refresh request from the applicant's browser. Next, in a step 2620, the counter offer parameters are retrieved from the application data base and a web page including the counter offer is generated. Then in a step 2630, the counter offer page is sent to the browser. The process ends at 2640.

[0158] FIG. 27 is a flow chart illustrating a process used in one embodiment to automatically generate a refresh on the applicant's browser. The process starts at 2700. In a step 2710, a request is received for a different offer from the customer service agent. The new offer is determined in a step 2720. The terms of the new offer are communicated to the customer service agent in step 2730. In a step 2740, the customer service agent describes the offer to the user. Then, in a step 2750, the customer service agent receives an indication that the user wants to view the new offer. The customer service agent then sends a message to the user in step 2760 that causes a refresh to be activated. As described above, the message may include writing a certain value to a defined memory location that is periodically examined by the browser for the purpose of determining whether a refresh has been requested

by the customer service agent. Once one refresh is generated in this manner, the value that the browser looks for may be incremented so that each time it finds the same value, a new refresh is not generated. The process ends at 2770.

**[0159]** A system and method for activating a chat interface with a customer service agent that has access to information about an application for credit has been described. In one embodiment, the chat interface is used to obtain information about why an applicant is rejecting an offer of credit and to identify unacceptable terms. Those unacceptable terms are communicated to a counter offer server and the counter offer server generates a new offer that improves the unacceptable term. The new offer is communicated to the applicant using the chat interface and a web page showing the new offer with an opportunity to accept the offer is displayed to the applicant when the applicant's browser is refreshed.

**[0160]** Although the foregoing invention has been described in some detail for purposes of clarity of understanding, it will be apparent that certain changes and modifications may be practiced within the scope of the appended claims. It should be noted that there are many alternative ways of implementing both the process and apparatus of the present invention. Accordingly, the present embodiments are to be considered as illustrative and not restrictive, and the invention is not to be limited to the details given herein, but may be modified within the scope and equivalents of the appended claims.

What is claimed is:

**1.** A method implemented on one or more computers for providing real time approval of credit over a network, comprising:

receiving with a computing system comprising one or more computers, via a computer network, applicant data from an applicant for a credit application;

prior to obtaining credit report data from a credit bureau for the applicant, automatically determining with the computer system compliance of the applicant with one or more one or more requirements, the one or more requirements comprising a duplicate check comprising comparing one or more elements of the applicant data with data previously submitted by applicants in prior applications, the duplicate check being failed by the credit application if less than a predetermined period of time has passed since submission of any of the prior applications of which the credit application is determined to be a duplicate, and otherwise being passed;

transmitting electronically to applicant a determination to decline approval for credit to the applicant if the applicant data fails to meet one or more of the one or more requirements;

if the credit application is not declined:

processing one or more elements of the applicant data into a predetermined electronic form;

electronically transmitting the one or more elements of applicant data in the predetermined electronic form to a credit bureau for obtaining a credit report from a credit bureau for the applicant;

receiving electronically with the one or more computers the credit report data from a credit bureau for the applicant; and

causing an automated underwriting process executing on the computer system to decide in real time, without intervention of a human, whether to approve or reject the applicant based for credit based at least in part on the credit report data, the automated underwriting process-

ing comprising comparing a FICO score contained in the credit report data to an acceptance threshold; and communicating electronically via the computer network to the applicant the decision of whether to approve or disapprove the applicant for credit.

**2.** The method of claim **1**, further comprising causing in real time automated generation using the one or more computers a plurality of offers of credit in response to a determination to approve credit.

**3.** A system for providing approval of credit over a network implemented on one or more computer processors, comprising:

an application engine configured to obtain applicant data from an applicant;

an address parser configured to format the applicant data into a form suitable for directly obtaining a credit report from a credit bureau for the applicant; and

an underwriter module configured to:

determine automatically whether to continue to process or to reject the applicant based on the applicant data prior to obtaining a credit report from a credit bureau for the applicant, said determining whether to continue to process comprising:

checking based on the applicant data entered by the applicant and prior to obtaining a credit report whether some or all of the applicant data is a duplicate of applicant data previously entered by the applicant; and

declining the applicant, in the event it is determined that the applicant data is a duplicate of applicant data previously entered by the applicant after a predetermined duplication cutoff date; and

obtain automatically, in the event it is determined based on the applicant data to process the applicant, a credit report having credit report data from a credit bureau for the applicant;

determine automatically whether to accept the applicant using the credit report data and the applicant data; and,

communicate automatically, if it is determined to accept the applicant for credit, to the applicant that the applicant has been approved for credit.

**4.** The system of claim **3**, wherein the determination of whether to accept the applicant for credit occurs in real time.

**5.** A computer readable medium, excluding transitory signals, having program code embodied therein for providing approval of credit over a network, which, when read by a computer, causes the computer to perform a process, the program code comprising:

program code for receiving via a computer network applicant data from an applicant for a credit application;

program code for determining, prior to obtaining credit report data from a credit bureau for the credit application, compliance of the applicant data with one or more one or more requirements, the one or more requirements comprising a duplicate check comprising comparing automatically one or more elements of the applicant data with data previously submitted by applicants;

program code for declining approval for credit to the applicant if the applicant data fails to meet one or more of the one or more requirements;

program code for, if the applicant is not declined:

processing automatically one or more elements of the applicant data into a predetermined electronic form;

electronically transmitting the one or more elements of applicant data in the predetermined electronic form to a credit bureau for obtaining a credit report from a credit bureau for the applicant;

receiving electronically a credit report having credit report data from a credit bureau for the applicant; and determining automatically, without intervention of a human, whether to accept or reject the applicant for credit based at least in part on the credit report data; and

program code for communicating, if it is determined to accept the applicant for credit, to the applicant that the applicant has been approved for credit.

6. A computer system, the computer system comprising: means for receiving via a computer network applicant data from an applicant for a credit application;

means for determining, prior to obtaining a credit report from a credit bureau for the credit application, compliance of the applicant with one or more requirements, the means for determining compliance with one or more requirements including means for determining whether applicant has previously made application for credit within a predetermined period of time;

means for processing automatically, if the applicant is in compliance with the one or more requirements, one or more elements of the applicant data into a predetermined electronic form and automatically electronically transmitting to a credit bureau for obtaining a credit report from a credit bureau for the applicant;

means for receiving electronically a credit report having credit report data from a credit bureau for the applicant;

decision means for automatically determining in real time, without intervention of a human, whether to accept or reject the applicant for credit based at least in part on the credit report data; and

means for communicating automatically with the applicant the determination of the decision means.

7. A computer readable medium of claim 5, further comprising program code for automatically generating in real time a plurality of offers of credit in response to a determination to approve credit.

8. Computer program product stored and executing on a computer system for causing the computer system to evaluate without human intervention an on-line electronic application for credit received from the application through a computer network, the evaluation comprising:

receiving by the computer system over a computer network applicant data for an application for credit;

prior to obtaining credit report data from a credit bureau for the applicant, determining, based on the applicant data, whether the application is a duplicate application by comparing one or more elements of the applicant data with data previously submitted by applicants;

if the application is determined to be a duplicate of a previous application submitted after a predetermined cut-off date, transmitting electronically, via the computer network, to the applicant a determination to decline approval for credit to the applicant, and otherwise electronically transmitting the one or more elements of applicant data in the predetermined electronic form to a credit bureau for obtaining a credit report from a credit bureau for the applicant;

in response to receiving electronically the credit report data from a credit bureau for the applicant, determining auto-

matically in real time, without intervention of a human, whether to approve or reject the applicant for credit based at least in part on the credit report data; and

if the applicant is approved, deriving an offer for credit based on the credit report and applicant data and communicating the offer of credit; otherwise, communicating the rejection to the applicant.

9. Computer program product according to claim 8, wherein determining whether the application is a duplicate application comprises checking a plurality of predefined criteria for matches, the application being determined a duplicate application based on matching of a predetermined number of the criteria.

10. Computer program product according to claim 9, wherein the plurality of predefined criteria comprise social security numbers, names and addresses of applicants.

11. Computer program product according to claim 9, wherein, if the application is determined to be a duplicate of a previous application submitted after a predetermined cut-off date, an option is communicated over the computer network to the applicant to resume an on-line credit application process using the previously submitted application.

12. A computing system for providing approval of credit over a network comprising on one or more computer processors and memory for storing instructions, the computing system in communication with an applicant computer over a computer network, the one or more computer processors executing the instructions, the computing system executing the instructions stored in memory, the instructions comprising:

an application engine configured for receiving applicant data over a computer network from an applicant;

an address parser configured to format the applicant data into a form suitable for directly obtaining a credit report from a credit bureau for the applicant; and

an underwriter module for automatically determining whether or not to offer credit to the applicant without human intervention, the underwrite module being configured for testing the application, the testing including determining whether the application is a duplicate application; the underwriter module being further configured for

declining the applicant in the event it is determined that the application is a duplicate application, and

otherwise obtaining a credit report from a credit bureau using the applicant data from the address parser and determining whether to offer or decline credit to the applicant using the credit report data without human intervention.

13. The computing system of claim 12, wherein the underwriter module is further configured for deriving an offer of credit based on the credit report and applicant data if the applicant is not declined and communicating over the computer network to the applicant the offer of credit; and otherwise communicating to the applicant over the network a decision to decline credit.

14. The computing system of claim 12, wherein the underwrite module is further configured for determining and communicating to the applicant, in the event of a rejection of the applicant, a reason for the rejection based on the a FICO factor.

15. A computerized system for providing approval of credit over a network implemented on one or more computer processors, comprising,

means for validating applicant data received from an applicant for an application credit through a computer network;

means for parsing predetermined elements of the applicant data into format for obtaining a credit report on the applicant;

means for performing pre-credit bureau tests, the pre-credit bureau tests comprising a test for determining whether the application is a duplicate of an application previously presented by the applicant before termination of a predetermined duplicate period and generating a failed status if the pre-credit bureau tests are failed; and

means for performing a credit bureau test, the means for performing a credit bureau test configure for performing the credit bureau test only if the pre-credit bureau test is not failed, and the means for performing configured for obtaining a credit report using the predetermined elements of the applicant data from the means for parsing, and for generating a failed status if the credit bureau test is failed;

means for underwriting for determining whether to offer credit to the applicant automatically in real time without human intervention based on the credit bureau test and applicant data.

**16.** The computerized system of claim **15**, wherein the means for performing a credit bureau test obtains credit reports from at least two credit bureaus.

**17.** The computerized system of claim **15**, wherein the test for determining whether an application is a duplicate is comprised of comparing predetermined elements of applicant data to stored data previously submitted by applicants.

**18.** The computerized system of claim **15**, further comprising means for automatically generating in real time a plurality of offers of credit in response to a determination to approve credit.

**19.** A method implemented on one or more computers for providing real time approval of credit over a network, comprising:

- receiving with a computing system comprising one or more computers, via a computer network, applicant data from an applicant for a credit application;
- prior to obtaining credit report data from a credit bureau for the applicant, automatically determining with the computer system compliance of the applicant with one or more one or more requirements, the one or more requirements comprising a duplicate check, the duplicate check comprising comparing one or more elements of the

- applicant data with data previously submitted by applicants in prior applications; the duplicate check being failed by the credit application if less than a predetermined period of time has passed since submission of any of the prior applications of which the credit application is determined to be a duplicate, and otherwise the duplicate check being passed;
- transmitting electronically to applicant a determination to decline approval for credit to the applicant if the applicant data fails to meet one or more of the one or more requirements;
- if the credit application is not declined:
  - processing one or more elements of the applicant data into a predetermined electronic form;
  - electronically transmitting the one or more elements of applicant data in the predetermined electronic form to a credit bureau for obtaining a credit report from a credit bureau for the applicant;
  - receiving electronically with the one or more computers the credit report data from a credit bureau for the applicant; and
  - determining automatically in real time in response to receiving the credit report data, using the one or more computers without intervention of a human, whether to approve or reject the applicant based at least in part on the credit report data;
- if the applicant is approved, automatically deriving using the one or more computers one or more offers of credit using at least in part on the credit report data, and communicating to the applicant the one or more offers of credit via the computer network; and otherwise not communicating the one or more offers.

**20.** The method of claim **19**, wherein determining automatically in real time in response to receiving the credit report data, using the one or more computers without intervention of a human, whether to approve or reject the applicant based for credit based at least in part on the credit report data, comprises comparing a FICO score contained in the credit report data to an acceptance threshold.

**21.** The method of claim **20**, wherein automatically deriving using the one or more computers one or more offers comprises deriving a plurality of offers of credit based at least in part on the credit report data, and wherein communicating the one or more offers of credit comprises communicating the plurality of offers of credit to the applicant via the computer network.

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