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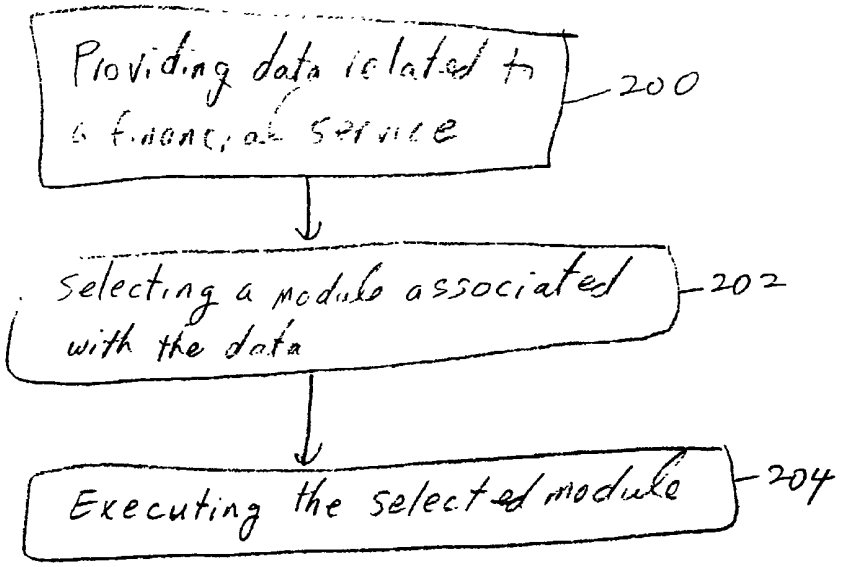
(54) Title: SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING AN ESTIMATE FOR A FINANCIAL SERVICE



(57) Abstract: The present invention relates to a system and method for providing financial services. According to an embodiment of the present invention, a financial service, such as insurance, may be provided through the use of reusable modules that may be called upon multiple times for various functions. In an exemplary embodiment is shown in a flow diagram (Figure 1). Data related to a financial service is provided (step 200). Module associated with the data provided is then selected (step 202) and then the selected module is executed (step 204). An example of a practical result of the use of these modules is that an insurance program may be quickly and easily established in all states with a minimum of duplication of effort.

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SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING AN ESTIMATE FOR A FINANCIAL SERVICE

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority to U.S. Provisional Patent Application No. 60/146,958 (Attorney Docket No. ECOVP001+) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING FINANCIAL SERVICES USING MODULES filed August 3, 1999 which is incorporated herein by reference for all purposes; and this application claims priority to U.S. Provisional Patent Application No. 60/146,964 (Attorney Docket No. ECOVP002+) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING AN ESTIMATE FOR A FINANCIAL SERVICE filed August 3, 1999 which is incorporated herein by reference for all purposes; and this application claims priority to U.S. Provisional Patent Application No. 60/146,957 (Attorney Docket No. ECOVP003+) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING A FINANCIAL SERVICE USING RATING FACTORS filed August 3, 1999 which is incorporated herein by reference for all purposes; and this application claims priority to U.S. Provisional Patent Application No. SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING A FINANCIAL SERVICE USING RATING FACTORS (Attorney Docket No. ECOVP004+) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING A FINANCIAL SERVICE USING RATING FACTORS filed August 3, 1999 which is incorporated herein by reference for all purposes; and this application claims priority to U.S. Provisional Patent Application No. 60/146,959 (Attorney Docket No. ECOVP005+) entitled SYSTEM

AND METHOD FOR ELECTRONICALLY REVISING A FINANCIAL SERVICE PRODUCT filed August 3, 1999 which is incorporated herein by reference for all purposes; and this application claims priority to U.S. Provisional Patent Application No. 60/146,966 (Attorney Docket No. ECOVP006+) entitled SYSTEM AND METHOD FOR ELECTRONICALLY MANAGING FINANCIAL SERVICE CLAIMS filed August 3, 1999 which is incorporated herein by reference for all purposes; and this application claims priority to U.S. Provisional Patent Application No. 60/146,949 (Attorney Docket No. ECOVP007+) entitled SYSTEM AND METHOD FOR ELECTRONICALLY CREATING A NEW FINANCIAL SERVICE PRODUCT filed August 3, 1999 which is incorporated herein by reference for all purposes.

This application is related to co-pending U.S. Patent Application No. _____ (Attorney Docket No. ECOVP002) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING AN ESTIMATE FOR A FINANCIAL SERVICE filed concurrently herewith, which is incorporated herein by reference for all purposes; and co-pending U.S. Patent Application No. _____ (Attorney Docket No. ECOVP003) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING A FINANCIAL SERVICE USING RATING FACTORS filed concurrently herewith, which is incorporated herein by reference for all purposes; and co-pending U.S. Patent Application No. _____ (Attorney Docket No. ECOVP004) entitled SYSTEM AND METHOD FOR ELECTRONICALLY PROVIDING A FINANCIAL SERVICE USING COLLECTIONS INCLUDING MODULES filed concurrently herewith, which is incorporated herein by reference for all purposes; and co-pending U.S. Patent

Application No. _____ (Attorney Docket No. ECOVP005) entitled SYSTEM AND METHOD FOR ELECTRONICALLY REVISING A FINANCIAL SERVICE PRODUCT filed concurrently herewith, which is incorporated herein by reference for all purposes; and co-pending U.S. Patent Application No. _____ (Attorney Docket No. ECOVP006) entitled SYSTEM AND METHOD FOR ELECTRONICALLY MANAGING FINANCIAL SERVICE CLAIMS filed concurrently herewith, which is incorporated herein by reference for all purposes; and co-pending U.S. Patent Application No. _____ (Attorney Docket No. - ECOVP007) entitled SYSTEM AND METHOD FOR ELECTRONICALLY CREATING A NEW FINANCIAL SERVICE PRODUCT filed concurrently herewith, which is incorporated herein by reference for all purposes.

FIELD OF THE INVENTION

The present invention relates to a system and method for providing financial services.

BACKGROUND OF THE INVENTION

Regulations for financial services, such as insurance, can be very complicated. Additionally, the complication may be compounded by the enforcement of different rules and regulations unique to each regulatory area, such as in a particular state. In order to accommodate these varying requirements, financial services, such as the insurance industry, have adopted a procedure that typically requires the financial

service provider to reestablish the financial service system for each regulatory area. For example, in the insurance industry, each state has its own set of rules and regulations for a particular insurance type offered in that state. Examples of insurance types include auto, life, and health. An example of the different requirement for auto insurance in varying states includes signature requirements. For example, one state might require an original signature, while another state might deem that a faxed copy of the signature is sufficient.

To accommodate the various regulations, insurance companies typically create a separate process for each insurance type in each state. Additionally, a new pricing program is typically prepared for each insurance type in each state. This multiple duplication of establishing programs typically results in extremely high costs, inefficiencies, duplication of effort, and high labor costs.

It would be desirable to have a system and method for providing financial services in an efficient and less costly manner. The present invention addresses such a need.

SUMMARY OF THE INVENTION

The present invention relates to a system and method for providing financial services. According to an embodiment of the present invention, a financial service, such as insurance, may be provided through the use of reusable modules that may be called upon multiple times for various functions. An example of a practical result of the use of these modules is that an insurance program may be quickly and easily established in all states with a minimum of duplication of effort.

A method according to an embodiment of the present invention for providing a financial service is presented. The method comprises receiving a request for financial service; providing an underwriting decision by using a first module; and generating an estimated quote by using a second module.

A system according to an embodiment of the present invention for providing a financial service is also presented. The system comprises a processor configured to facilitate receiving a request for financial service; providing an underwriting decision by using a first module; and generating an estimated quote by using a second module. The system also includes a memory coupled to the processor to provide instructions to the processor.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be readily understood by the following detailed description in conjunction with the accompanying drawings.

FIG. 1 is a block diagram of an example of a computer system suitable for use with an embodiment of the present invention.

FIG. 2 is a flow diagram of a method according to an embodiment of the present invention for providing a financial service.

FIG. 3 is another flow diagram of a method according to an embodiment of the present invention for providing a financial service.

FIGs. 4A – 4B are further flow diagrams of a method according to an embodiment of the present invention for providing a financial service.

FIG. 5 is an example of a table showing modules which may be used according to an embodiment of the present invention.

FIGs. 6A-6F are examples of tables that may be used according to an embodiment of the present invention.

FIG. 7 is a flow diagram of a method according to an embodiment of the present invention for using a meta collection in conjunction with providing a financial service.

FIG. 8 is a flow diagram of a method according to an embodiment of the present invention for calculating a net factor in conjunction with providing a financial service.

FIG. 9 shows an example of questions that may be asked of a potential customer who is interested in obtaining an auto insurance quote according to an embodiment of the present invention.

FIGS. 10A – 10B shows an example of a list of collections and modules that are valid for a product according to an embodiment of the present invention.

FIG. 11 shows an example of a screen shot of a quote manipulation tool.

DESCRIPTION OF SPECIFIC EMBODIMENTS

The following description is presented to enable one of ordinary skill in the art to make and to use the invention and is provided in the context of a patent application

and its requirements. Various modifications to the preferred embodiments will be readily apparent to those skilled in the art and the generic principles herein may be applied to other embodiments. Thus, the present invention is not intended to be limited to the embodiment shown but is to be accorded the widest scope consistent with the principles and features described herein.

FIG. 1 is a block diagram of a general purpose computer system 100 suitable for carrying out the processing in accordance with one embodiment of the present invention. FIG. 1 illustrates one embodiment of a general purpose computer system. Other computer system architectures and configurations can be used for carrying out the processing of the present invention. Computer system 100, made up of various subsystems described below, includes at least one microprocessor subsystem (also referred to as a central processing unit, or CPU, 102). That is, CPU 102 can be implemented by a single-chip processor or by multiple processors. CPU 102 is a general purpose digital processor which controls the operation of the computer system 100. Using instructions retrieved from memory 110, the CPU 102 controls the reception and manipulation of input data, and the output and display of data on output devices.

CPU 102 is coupled bi-directionally with memory 110 which can include a first primary storage, typically a random access memory (RAM), and a second primary storage area, typically a read-only memory (ROM). As is well known in the art, primary storage can be used as a general storage area and as scratch-pad memory, and can also be used to store input data and processed data. It can also store programming instructions and data, in the form of data objects and text objects, in addition to other data and instructions for processes operating on CPU 102. Also as

well known in the art, primary storage typically includes basic operating instructions, program code, data and objects used by the CPU 102 to perform its functions. Primary storage devices 110 may include any suitable computer-readable storage media, described below, depending on whether, for example, data access needs to be bi-directional or uni-directional. CPU 102 can also directly and very rapidly retrieve and store frequently needed data in a cache memory (not shown).

A removable mass storage device 112 provides additional data storage capacity for the computer system 100, and is coupled either bi-directionally or uni-directionally to CPU 102. For example, a specific removable mass storage device commonly known as a CD-ROM typically passes data uni-directionally to the CPU 102, whereas a floppy disk can pass data bi-directionally to the CPU 102. Storage 112 may also include computer-readable media such as magnetic tape, flash memory, signals embodied on a carrier wave, PC-CARDS, portable mass storage devices, holographic storage devices, and other storage devices. A fixed mass storage 120 can also provide additional data storage capacity. The most common example of mass storage 120 is a hard disk drive. Mass storage 112, 120 generally store additional programming instructions, data, and the like that typically are not in active use by the CPU 102. It will be appreciated that the information retained within mass storage 112, 120 may be incorporated, if needed, in standard fashion as part of primary storage 110 (e.g. RAM) as virtual memory.

In addition to providing CPU 102 access to storage subsystems, bus 114 can be used to provide access other subsystems and devices as well. In the described embodiment, these can include a display monitor 118, a network interface 116, a keyboard 104, and a pointing device 106, as well as an auxiliary input/output device

interface, a sound card, speakers, and other subsystems as needed. The pointing device 106 may be a mouse, stylus, track ball, or tablet, and is useful for interacting with a graphical user interface.

The network interface 116 allows CPU 102 to be coupled to another computer, computer network, or telecommunications network using a network connection as shown. Through the network interface 116, it is contemplated that the CPU 102 might receive information, *e.g.*, data objects or program instructions, from another network, or might output information to another network in the course of performing the above-described method steps. Information, often represented as a sequence of instructions to be executed on a CPU, may be received from and outputted to another network, for example, in the form of a computer data signal embodied in a carrier wave. An interface card or similar device and appropriate software implemented by CPU 102 can be used to connect the computer system 100 to an external network and transfer data according to standard protocols. That is, method embodiments of the present invention may execute solely upon CPU 102, or may be performed across a network such as the Internet, intranet networks, or local area networks, in conjunction with a remote CPU that shares a portion of the processing. Additional mass storage devices (not shown) may also be connected to CPU 102 through network interface 116.

An auxiliary I/O device interface (not shown) can be used in conjunction with computer system 100. The auxiliary I/O device interface can include general and customized interfaces that allow the CPU 102 to send and, more typically, receive data from other devices such as microphones, touch-sensitive displays, transducer

card readers, tape readers, voice or handwriting recognizers, biometrics readers, cameras, portable mass storage devices, and other computers.

In addition, embodiments of the present invention further relate to computer storage products with a computer readable medium that contain program code for performing various computer-implemented operations. The computer-readable medium is any data storage device that can store data which can thereafter be read by a computer system. The media and program code may be those specially designed and constructed for the purposes of the present invention, or they may be of the kind well known to those of ordinary skill in the computer software arts. Examples of computer-readable media include, but are not limited to, all the media mentioned above: magnetic media such as hard disks, floppy disks, and magnetic tape; optical media such as CD-ROM disks; magneto-optical media such as floptical disks; and specially configured hardware devices such as application-specific integrated circuits (ASICs), programmable logic devices (PLDs), and ROM and RAM devices. The computer-readable medium can also be distributed as a data signal embodied in a carrier wave over a network of coupled computer systems so that the computer-readable code is stored and executed in a distributed fashion. Examples of program code include both machine code, as produced, for example, by a compiler, or files containing higher level code that may be executed using an interpreter.

The computer system shown in FIG. 1 is but an example of a computer system suitable for use with the invention. Other computer systems suitable for use with the invention may include additional or fewer subsystems. In addition, bus 114 is illustrative of any interconnection scheme serving to link the subsystems. Other

computer architectures having different configurations of subsystems may also be utilized.

FIG. 2 is a flow diagram of a method according to an embodiment of the present invention for providing a financial service. Data related to a financial service, such as insurance, is provided (step 200), typically by a potential customer or a company administrator. A module associated with the provided data is then selected (step 202). Modules, as defined herein, are encapsulations of code, with attributes that collectively define a component of a process of a financial institution. Examples of modules for insurance include the make of a car, a pricing weight of a person's driving record, and zip code. There may be multiple modules dealing with a specific piece of information needed for processing a particular type of insurance in a specified state. For example, there may multiple modules dealing the make of the person's car. Further details of modules will later be discussed in conjunction with the remaining figures, particularly FIG. 5. Once a module associated with the data has been selected (step 202), then the selected module is executed (step 204).

FIG. 3 is another flow diagram of a method according to embodiment of the present invention for providing a financial service. A quote request is received (step 300). For example, the quote request may be sent via the Internet by a potential customer interested in a financial service product.

Once the quote request is received, an underwriting decision is then performed (step 302). The underwriting decision may be a preliminary decision determining whether this potential customer qualifies for an initial quote for the financial service product. For example, a potential customer requesting a quote may provide

information to help determine the underwriting decision. If the potential customer requests a quote for car insurance but it is determined that he is too high of a risk based on his driver's record, the requested quote may simply be refused. Accordingly, time and resources are not wasted in determining and describing a product that will eventually not be offered to the potential customer. Further details of the underwriting decision performed in step 302 will later be discussed in conjunction with FIGs. 4A – 4B.

Once an underwriting decision has been made and approved, quote generation is performed (step 304). Modules may be used to perform the quote generation to return quote information to the potential customer requesting the quote. Further details of the generation of the quote are later discussed in conjunction with FIGS 4A – 4B.

Thereafter, billing and detailed information may be obtained from the potential customer (step 306). Validation and verification of the information provided by the potential customer may also be performed (step 308). For example, verification of the driver's record which was provided by the potential customer may be independently verified. Closing functions may also be performed (step 310). Closing functions may include any remaining pending issues such as filling out forms to comply with state regulations.

FIGs. 4A – 4B are further flow diagrams of an example of a method according to an embodiment of the present invention for providing a financial service. FIG. 5 shows an example of a modules table showing examples of modules and their attributes. FIGs. 6A – 6F show examples of table mappings and collections that may

be used in conjunction with modules. FIG. 6A shows a person table 600; FIG. 6B shows a frequency table 610; FIG. 6C is an example of a table of mappings 620; FIG. 6D is an example of a table of collections 630; FIG. 6E is another example of a table of collections 640; and FIG. 6F is an example of a table of meta collections 650. These figures are herein described together.

In the example shown in FIGs. 4A – 4B, a potential customer logs onto a web site providing a financial service (step 400). The potential customer then requests a financial service application, such as an application for a particular type of insurance in a particular state (step 402).

Examples of information that a potential customer may be requested to provide in conjunction with the request for an application are shown in FIG. 9. FIG. 9 is an example of questions that may be asked of a potential customer who is interested in obtaining an auto insurance quote. Examples of questions include name, gender, marital status, years as a licensed driver in the U.S., years without lapse in insurance coverage, points on driving record in the last three years, whether the person has completed a defensive driving course in the last three years, whether the person is a student with a B or better grade average, vehicle year, make, model, usage, principal driver, home zip code, and any other information that may be relevant to an application for the requested financial service product.

Quote request modules associated with the selected state and selected insurance type are identified (step 404). There may be different types of modules, such as module types delineated by function. Examples of types of modules include quote request, quote generation, verification, closing requirements, billing, claims

handling, help, and underwriting modules. In step 404, modules used for the quote request process may be identified based on their assigned module type, such as quote request modules. An example of quote request modules associated with a selected state and insurance type (step 404 of FIG. 4A) is shown in FIGs. 6C and 5.

FIG. 6C shows a mappings table that identifies modules with some attributes. For example, modules with an assigned type of "quote request", for the state of California, for car insurance include modules named "car" and "zip". These modules may be found in the modules table 500 shown in FIG. 5.

FIG. 5 shows an example of a modules table showing examples of modules and their attributes. The modules table 500 is shown to include the names 501 of the modules and various attributes 502A-502J of the modules. In this example, the modules included in the modules table 500 is zip code, car make, car year, zip code, and frequency. Further examples of module names include "Calculation", "Content", "Document", "External", "frame", "rating", and "underwriting". In this example, attributes shown in the modules table 500 include code type 502A, code 502B, whether this module is repeatable 502C, a destination table 502D, a destination field 502E, initial conditions 502F, date from 502G, date to 502H, state 502I, and insurance type 502J. Further examples of attributes which may be associated with modules include the following:

ATTRIBUTES FOR CALCULATION MODULE
- Calculation
- Language
- Destination Table
- Destination Field
- Destination Custom

ATTRIBUTES FOR CONTENT MODULE
- Title
- Text
- Destination Table
- Destination Field
- Form Type
- Form Size
- Answer Set
- Default Answer
- Help
- Layout
- Borders
- Repetition
- Auto Reload
- Language
- Execute Dependency

ATTRIBUTES FOR DOCUMENT MODULE
- Title
- Format
- Template

ATTRIBUTES FOR EXTERNAL MODULE
- Protocol
- Format
- Destination
- Authorization

ATTRIBUTES FOR FRAME MODULE
- Frame Name
- Initial Page Name
- Scroll

ATTRIBUTES FOR RATING MODULE
- Factor
- Source Table
- Source Field
- Match Type
- Factor Usage
- Constraint Table
- Constraint Field

ATTRIBUTES FOR UNDERWRITING MODULE
- Asset Type
- Test
- Success
- Failure

For example, California may be the selected state 502I and auto may be the selected insurance type 502J of FIG. 5. Accordingly, in this example, the modules that would be identified during step 404 include zip code, car make, car year, and frequency.

These quote request modules are then displayed to the potential customer (step 406). The potential customer then inputs requested data (step 408). Examples of requested data are later discussed in conjunction with FIG. 9.

Each module then takes input associated with that particular module and places it in a predetermined location (step 410). An example of determining the predetermined location is shown in FIG. 5 as the attributes destination table 502D and destination field 502E. For example, if the destination table 502D of FIG. 5 identifies "person" as the destination table and "frequency" as the destination field, then the data related to frequency module would be placed in the person table 600 of FIG. 6A in the frequency column.

After each module takes input associated with it and places it in a predetermined location (step 410 of FIG. 4A), calculation modules related to the selected state and insurance type are then retrieved (step 412). The calculation modules may be modules that are related to calculating a rating associated with the potential customer and the insurance policy to be offered to him. The rating may be the insurance rate a potential customer would qualify to receive.

Primary underwriting modules are then implemented in this example (step 414). These underwriting modules determine whether or not to offer insurance to this particular potential customer. Quote generation modules are then determined (step

416). Quote generation modules determine a rating factor or a set of rating factors to be used in offering a quote to the potential customer. As previously mentioned, these modules may be determined by referring to a mappings table 620 of FIG. 6C which give examples of types of the modules that may be associated with a given module.

A net rating factor for the potential customer is then generated (step 450). A net rating factor is a customized rating factor for a particular potential customer that is a compilation of other rating factors. For example, there may be several rating factors provided in the form of modules such as car type, number of years of driving experience, driving record, insurance deductible, gender, age, location of residence, and age of the car. Each of these factors may be translated into a number system so that the number system may be associated with a particular cost and risk associated with that particular rating factor. For example, a ten may signify an extremely high risk factor which can be equivalent to a very high price for the offered policy, while a factor of one may indicate a very low risk and a correspondingly low price for the offered policy. The number system may be any system that denotes a degree of risk or price.

These various factors are then combined to produce a net factor. For example, all of the various rating factors may be multiplied to produce a net factor. This net factor may be used in conjunction with a specific insurance company's base rate for a specific state. For example, a particular insurance company may have a base rate in the state of California for bodily injury at $1000 per year. The net rating factor may be combined with the base rate, such as multiplying by the base rate, to produce a price for the potential customer for a particular type of insurance. For example, if the bodily injury base rate for car insurance in California is $1,000 per year, then the

potential customer's price may be $1,000 per year times the net factor calculated for this particular customer. If the combination of all of the rating factors equals 2.75 as a net factor and the base rate for this type of insurance in this state is $1,000 per year, then the quote offered to the potential customer would be $2,750 per year. Further details of the calculation of the net factor will later be discussed in conjunction with FIG. 8.

In addition to presenting one quote for one type of financial service, another quote for another type of financial service may also be presented. For example, a net rating factor may be generated for auto insurance for a potential customer in a given state. In addition, the same information provided by the potential customer may be used to generate a net rating factor for home owner's insurance. Both the auto insurance quote and the home insurance quote generated from these net rating factors may be presented to the potential customer. In this manner, even though a potential customer may only request a quote for auto insurance, he can view a quote for home owner's insurance without having to input a significant amount of additional information, if any at all.

After the net rating factor is generated for the potential customer (step 450), a quote manipulation tool may be displayed to the potential customer (step 452). An example of a quote manipulation tool is described in conjunction with FIG. 11. The use of a quote manipulation tool is optional. The net rating factor may be used to generate a quote for the requested financial service to be presented to the user. The user may then decide whether to accept the financial service at that price.

Alternatively, a potential customer may insert variables to generate different quotes with a quote manipulation tool (step 454). The potential customer then selects a policy or coverage (step 456). The potential customer then provides detailed information regarding the property or person being insured (step 458). The potential customer also provides billing information (step 460). Examples of the billing information include information required for electronic transfer. Validation of the information may then be performed (step 461). Resolution of outstanding issues are also performed if there are any outstanding issues (step 462). For example, a notification may be sent to the marketing department of the insurance company to send out a new customer package to the potential customer. Any remaining customer documents may be executed (step 464), and any required company documents may also be executed (step 466).

As previously mentioned, FIG. 5 is an example of a modules table according to an embodiment of the present invention. In this example, the modules table 500 identifies the name 501 of the modules and the various attributes 502A – 502J associated with the modules. The sample list of attributes associated with the modules for the modules table 500 includes a code type 502A, code 502B, repeatable 502C, a destination table 502D, a destination field 502E, initial conditions 502F, date from 502G, date to 502H, state 502I, and insurance type 502J.

A code type 502A indicates a type of programming code that is associated with a particular module. For example, SQL or math may be code types associated with a particular module. Code 502B is the actual code or calculation used in conjunction with the module. For example, the code may identify a field in another table multiplied by a factor and added to another field from another table. For

example, the code associated with the module frequency may be a SQL code and defined as (person serious) times 5 plus (person minor) times 1, wherein person serious indicates a column entitled "serious" in the "person" table and person minor is the "minor" column in the "person" table.

The attribute "repeatable" 502C simply indicates whether a module may be used more than once in a particular process. For example, a potential customer may have more than one car that needs to be insured under his name. Accordingly, the car make and car year may be repeatable to allow input of more than one car.

Destination table 502D and destination field 502E identify the location to which the data received from the potential customer associated with a particular module is to be placed. For example, the data received from the potential customer associated with the module "frequency" is placed in destination table "person" 600 of FIG. 6A, in the destination field "frequency" of the "person" table 600 of FIG. 6A.

Initial conditions 502F indicate under what conditions the module is activated. For example, for processing billing information, data associated with the billing information is an initial condition such that the billing module does nothing if there is no billing information to process. Another example is a credit card module wherein initial conditions of the credit card module may include a credit card number, a charge on the credit card or a lack of payment of a charge on the credit card. Under these conditions, the credit card module is activated. Completion conditions (not shown) may also be used in addition to or instead of initial conditions 502F. Completion conditions may indicate under what conditions the module is deactivated. For example, the credit card module may include completion conditions such as payment

of a charge on the credit card. When a charge on the credit card is paid, then the credit card module is deactivated.

The "date from" 502G and "date to" 502H indicate the time period during which the module is valid. State 502I may indicate the state or location to which the module applies. Insurance type 502J, which may also be financial services type, indicates what type of financial service to which the module applies.

Modules may be dynamic such that the modules may be rearranged in any order and associated with any other module or program. Modules may be classified into collections or groups and may be arbitrarily rearranged. Modules may include definable and editable attributes and may be defined by a set of its attributes. Modules may be used so that an outside program simply executes the modules in any order desired by the programmer. A single module may be assigned to various uses such that the same module may be used repeatedly for different projects. A module may be disconnected from the data pool such that the module simply accesses the location of the data. Accordingly, the data may be changed in one location to update multiple modules. A group of modules or all of the modules may have at least one thing in common so that all of these modules may be generalized. For example, all modules or a subset of all modules may be valid for certain dates or have common initial conditions. This facilitates the use of an admin tool that can manipulate all of the modules or a subset of all of the modules by taking advantage of the factors that these modules have in common.

As previously mentioned a module is an encapsulation of code with attributes that collectively define a component of a process of financial services. It is optional

to have different types of modules. An example of a type of module is a query module which would ask a potential customer a predetermined question or questions, such as the make of his car, and placing the answers to those questions in a predetermined location, such as a data table. Another example of a type of module is a rating module which is a piece of programming code that can determine a price for a particular financial service product.

There may be multiple modules for a concept, such as three modules for a car: make, model, and year. All of these modules associated with this particular concept may be placed in a collection called a car collection.

FIGs. 6D and 6E show examples of a table of collections 640, 630. In FIG. 6E, the collections table 640 shows the name of the collection, the name of the modules within that collection, and date from and date to which identify dates during which the collection is valid.

A collection may also include other collections and not just modules. The collections are a convenient form of access to the modules. Collections are not necessary to access modules, however, some modules may be convenient to be grouped together because they are often accessed together. Accordingly, a collection, such as car collection, may be re-accessed and reused more conveniently then accessing every module and collection within the car collection each time those modules and collections need to be accessed.

For example, if a customer applies for both auto insurance and property insurance, then much of the information the customer provides for auto insurance will be the same as information required to be provided for the property insurance.

Accordingly, many of the modules used for the auto insurance may be reused for the application for the property insurance. Rather than determining a second time what each module is related to, a collection may be used to take advantage of the relationships that have already been determined. Examples of names of collections include "frameset", "page", and "content". Each collection identifies modules or other collections which point to the location of those modules and other collections. The following are examples of modules and collections that may be included in collections:

ELEMENTS OF FRAMESET COLLECTION
- Sizes
- Layout

ELEMENTS OF PAGE COLLECTION
- Title
- Text

ELEMENTS OF CONTENT COLLECTION
- Title
- Text
- Help
- Repeats
- Layout
- Borders
- Execute Dependency

There may be several different types of collections, for example, an operational collection or a meta collection. The operational collection is preferably a collection that gets executed, while a meta collection is preferably not executed. Meta collections are preferably not used by transactions, they are only for administrative purposes. A meta collection identifies modules or collections for an operation. A meta collection associates modules to collections. The example of the meta collection 650 shown in FIG. 6F shows electronic funds transfer (EFT) as the name of a meta

collection. If an electronic funds transfer is desired in the state of Texas, then a module, such as one identifying a credit card number, should be added to a billing page content as well as to billing processing. For administrative purposes, it may be desired to group these two collections, billing page content and billing processing, together since changes to the billing page content would also effect billing processing. Accordingly, it may be helpful to group these two collections together under a meta collection.

In the example of the meta collection 650 of FIG 6F, the meta collection named "EFT" associates module 19 with collection 8 and module 35 with collection 11, collection 8 being billing page content and collection 11 being billing processing. Examples of module 19 and 35 may be a credit card number and expiration date. Accordingly, if it is desired to add electronic funds transfer to pay for the financial service, then the EFT meta collection identifies the modules to be included in a particular collection to ensure that the EFT is properly added. If the electronic funds information is changed, such as the customer wishes to charge on a different credit card, then the EFT meta collection may again be used to identify what new or revised modules need to be added to which collections to enact these changes. Meta collections are not required to execute the modules, it is an additional directory to assist in organizing the modules and the uses thereof.

FIG. 7 is a flow diagram of a method according to an embodiment of the present invention for using a meta collection in conjunction with providing a financial service. A user, such as the program administrator, selects an option (step 700). An example of an option is whether the user chooses to present electronic fund transfer as an option to a potential customer applying for insurance. The selected option is then

looked up under a meta collection (step 702). Modules identified under the meta collection are inserted into operational collections from the meta collection (step 704). When a customer selects a state and insurance type, the operational collection then puts together the modules required for the customer for the selected state and insurance type (step 706), as discussed in conjunction with FIGs. 2 – 6A-6F.

FIG. 8 is a flow diagram of a method according to an embodiment of the present invention for determining a net rating factor for providing a financial service, such as in step 450 of FIG. 4B. A rating factor for each calculation module is looked up for the selected state and insurance type (step 800). All of these rating factors are multiplied together to result in a net rating factor (step 802). A base rate of the financial service provider is looked up for the selected state and insurance type (step 804). The base rate is then multiplied with the net rating factor to result in a price for the customer (step 806). Although multiplication is used in this example, these rating factors may be combined in any way such as addition, subtraction, division or by any other mathematical function or combinations thereof to result in the net rating factor. Similarly, the base rate may be combined in any way with the net rating factor to result in the quoted price. The rating factor for each module for the selected state and insurance type may be determined by the company providing the financial services.

FIGS. 10A – 10B show an example of a list of collections and modules that are valid for a product according to an embodiment of the present invention. As shown in FIGS. 10A – 10B, collections can be included in other collections as well as modules (elements). Examples of collections include a purchasing master, quote request page, quote request frameset, quote questions frameset, auto quote, pre-underwriting calculation, preferred filter underwriting, post-underwriting calculation,

auto program, auto rating, deductible rating, class factor rating, quote header page, drivers page, points questions content, and vehicles page. Examples of modules include quote header frame, drivers frame, vehicles frame, nav bottom frame, points calculation, symbol calculation, vehicle count, experience underwriting, accidents underwriting, points underwriting, frequency and severity calculation, driver assignment calculation, base rates rating, symbol rating, multiple vehicle rating, multiple vehicle rating, affinity group rating, mature driver rating, model year rating, and anti-theft rating.

FIG. 11 shows an example of a screen shot of a quote manipulation tool. Examples of variables that may be used to allow the potential customer to see the effect of the premium quote includes bodily injury liability amount, property damage liability amount, medical payments, uninsured motorist bodily injury amount, uninsured motorist personal damage amount, comprehensive coverage, and collision coverage. A potential customer may vary any of these variables to recalculate the total premium quote for that customer.

A method and system for providing a financial service has been disclosed. Software written according to the present invention may be stored in some form of computer-readable medium, such as memory or CD-ROM, or transmitted over a network, and executed by a processor.

Although the present invention has been described in accordance with the embodiment shown, one of ordinary skill in the art will readily recognize that there could be variations to the embodiment and these variations would be within the spirit and scope of the present invention. The examples used to illustrate the invention were

for the insurance industry, however, the invention may be applied to any financial service, such as various types of loans. Accordingly, many modifications may be made by one of ordinary skill in the art without departing from the spirit and scope of the appended claims.

5

CLAIMS

1. A method for providing a financial service comprising:
receiving a request for financial service;
providing an underwriting decision by using a first module; and
generating an estimated quote by using a second module.

2. The method of claim 1, further comprising providing information related to billing.

3. The method of claim 1, wherein providing the request for financial service includes providing information related to the request; the method of claim 1 further comprising validating the provided information.

4. The method of claim 1, wherein the request for financial service is provided via a network.

5. The method of claim 1, wherein the request for financial service is provided via an Internet.

6. The method of claim 1, wherein the financial service is insurance.

7. The method of claim 1, wherein the request for financial service is associated with a location.

8. The method of claim 1, wherein using the first module includes placing information associated with the first module in a predetermined location.

9. The method of claim 1, further comprising generating a rating factor associated with the request for financial service.

10. The method of claim 1, wherein a variable associated with the estimated quote may be manipulated to change the estimated quote.

11. The method of claim 1, further comprising validating information associated with the request for financial service.

12. The method of claim 1, wherein the first module may be arranged in any relative order compared to the second module.

13. The method of claim 1, wherein the first module may be used for a plurality of uses.

14. The method of claim 1, wherein the first module identifies the location of data, wherein the data is related to the first module.

15. The method of claim 1, wherein the first module has at least one attribute in common with the second module.

16. The method of claim 15, wherein the first module and the second module may both be manipulated by using the at least one attribute in common.

17. The method of claim 1, wherein the first module includes an attribute.

18. The method of claim 17, wherein the attribute is a code type.

19. The method of claim 17, wherein the attribute is a code.

20. The method of claim 17, wherein the attribute is whether the first module is repeatable.

21. The method of claim 17, wherein the attribute is a destination table.

22. The method of claim 17, wherein the attribute is a destination field.

23. The method of claim 17, wherein the attribute is an initial condition.

24. The method of claim 17, wherein the attribute is a start date wherein the module becomes valid from that day forth.

25. The method of claim 17, wherein the attribute is an end date wherein the module becomes invalid from that day forth.

26. A system for providing a financial service comprising:
a processor configured to facilitate receiving a request for financial service; providing an underwriting decision by using a first module; and generating an estimated quote by using a second module; and
a memory coupled to the processor to provide instructions to the processor.

27. A computer program product for providing a financial service comprising:
computer code receiving a request for financial service;
computer code providing an underwriting decision by using a first module;
computer code generating an estimated quote by using a second module; and
a computer readable medium that stores the computer codes.

28. The computer program product of claim 27, wherein the computer readable medium is selected from the group consisting of CD-ROM, floppy disk, tape, flash memory, system memory, hard drive, and data signal embodied in a carrier wave.

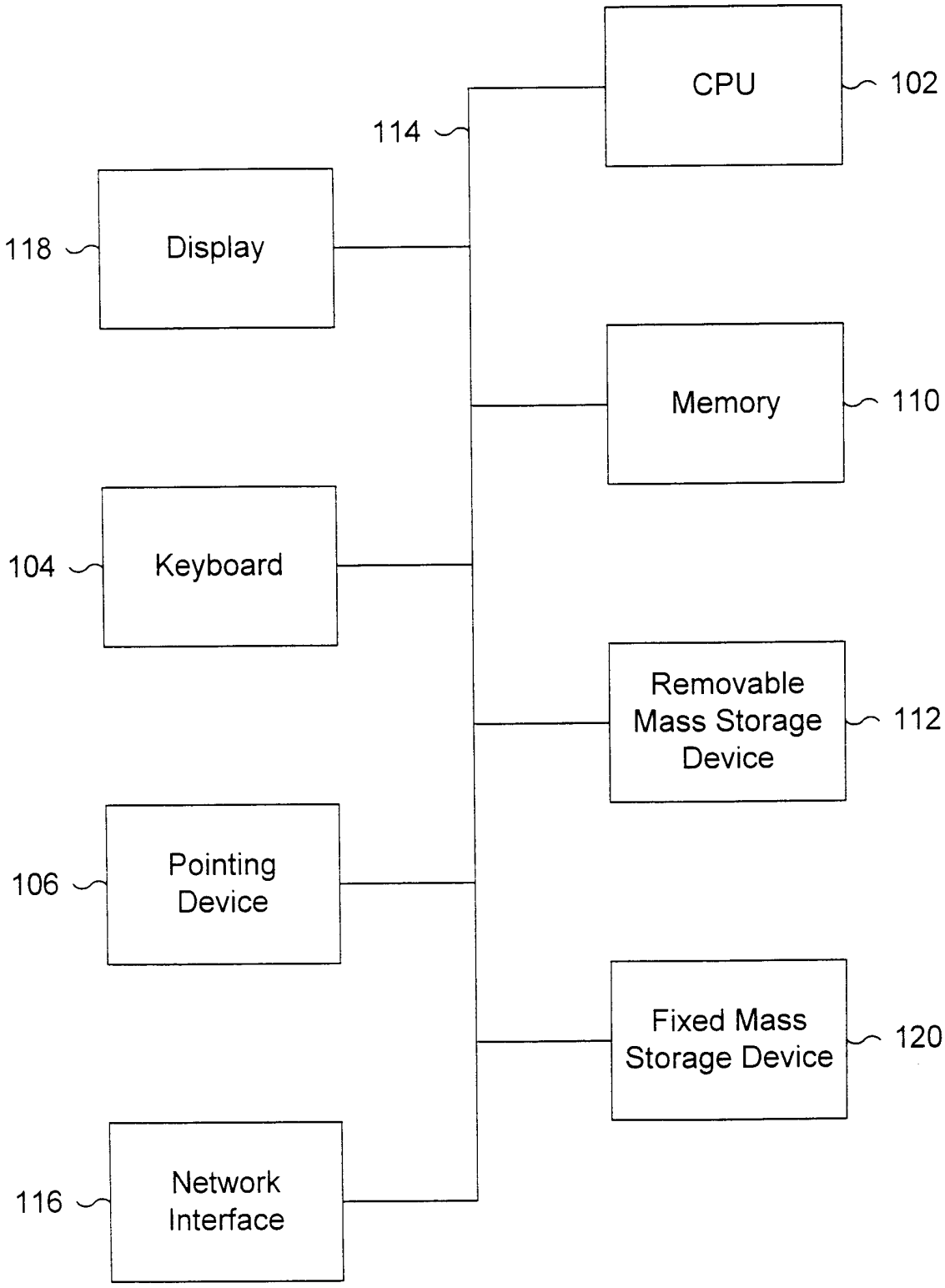

CPU
102
114
Display
118
Memory
110
Keyboard
104
Removable Mass Storage Device
112
Pointing Device
106
Fixed Mass Storage Device
120
Network Interface
116

Figure 1

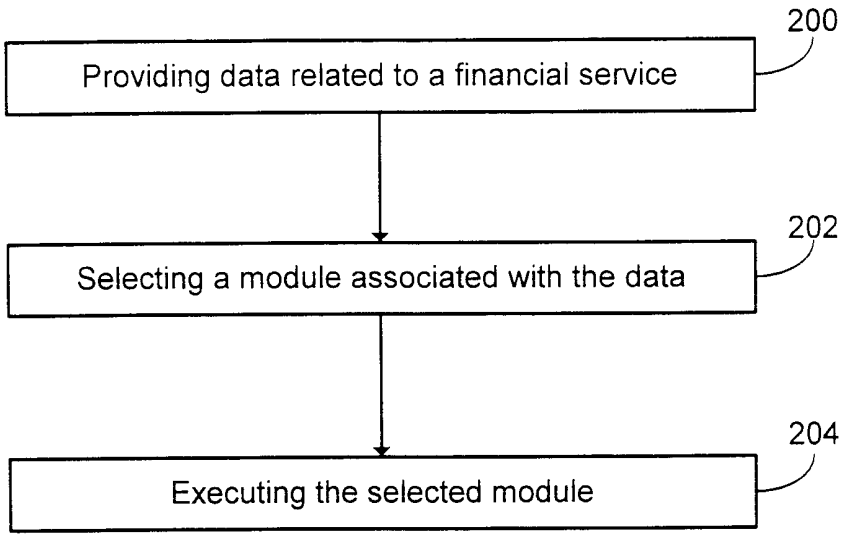

200
Providing data related to a financial service
202
Selecting a module associated with the data
204
Executing the selected module

FIG 2

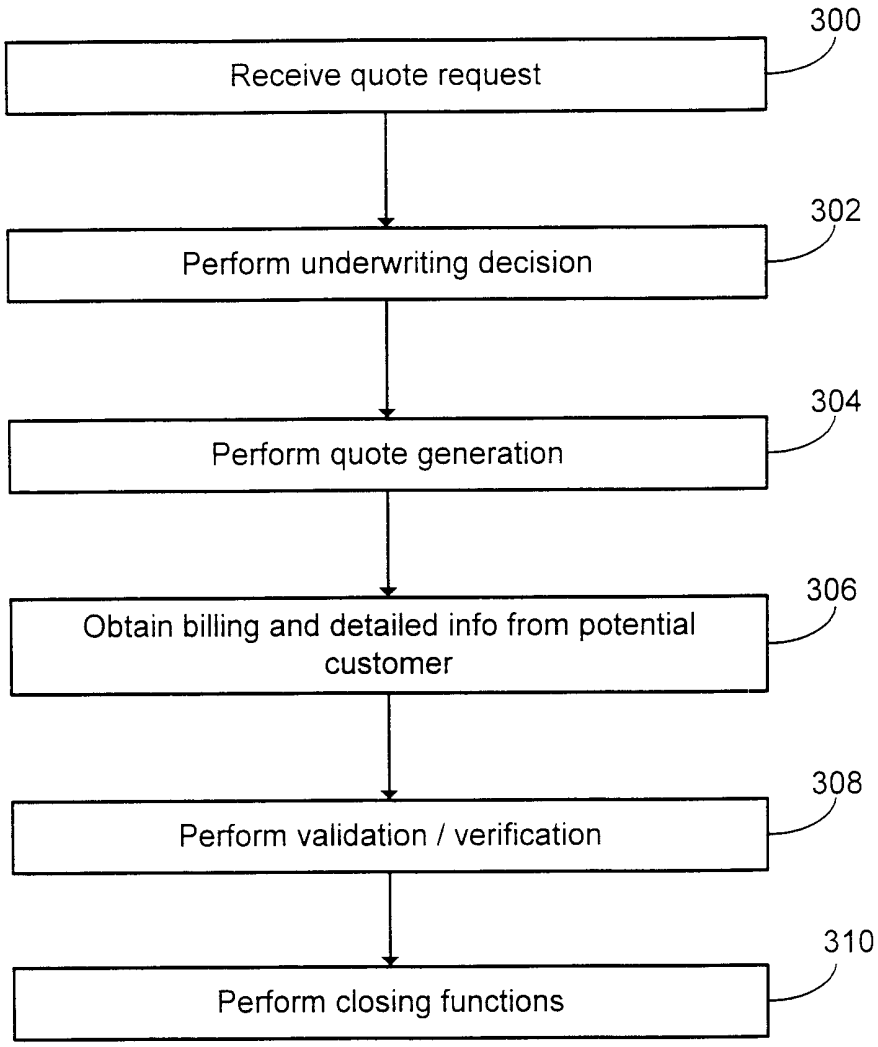

300
Receive quote request
302
Perform underwriting decision
304
Perform quote generation
306
Obtain billing and detailed info from potential customer
308
Perform validation / verification
310
Perform closing functions

FIG 3

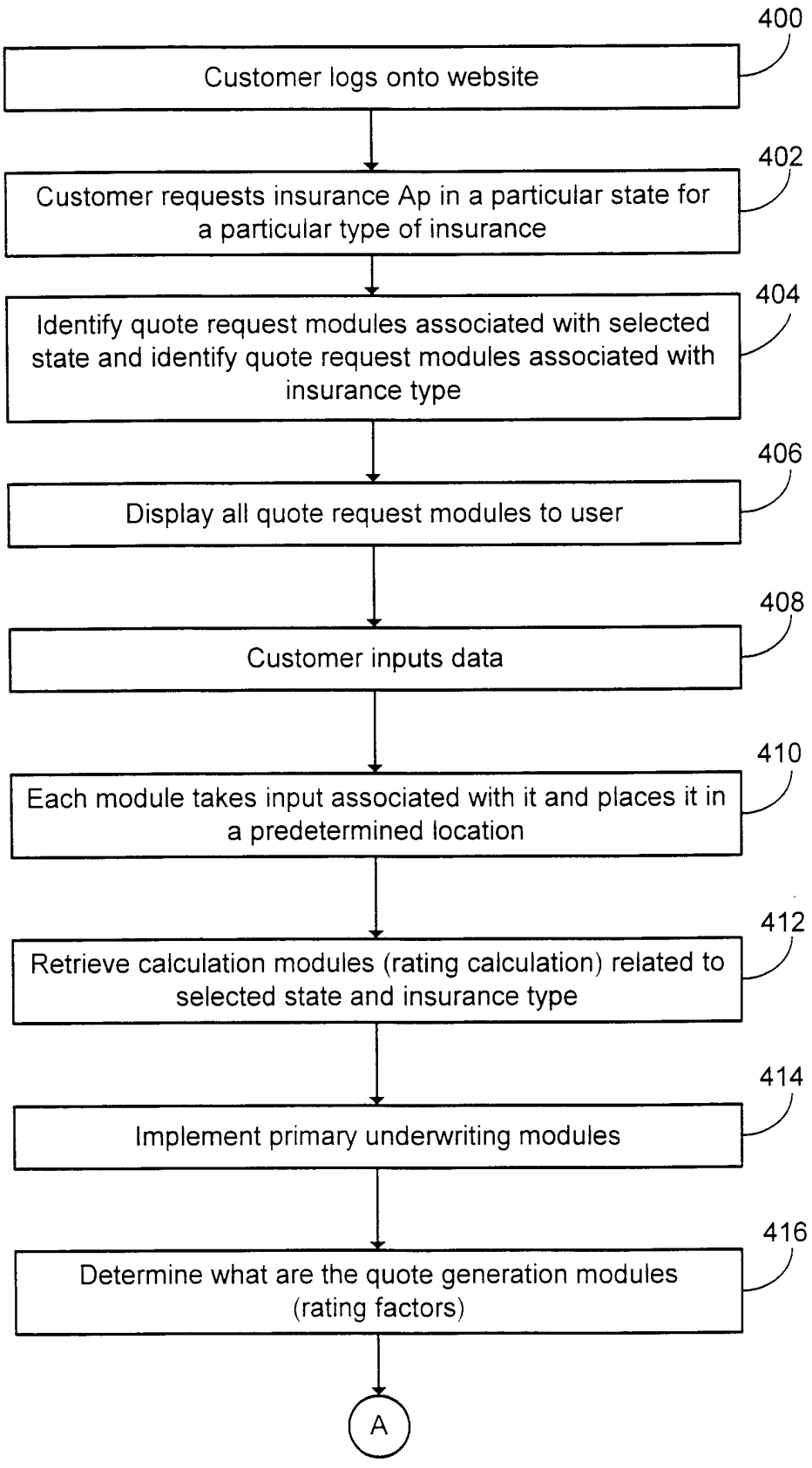

400
Customer logs onto website
402
Customer requests insurance Ap in a particular state for a particular type of insurance
404
Identify quote request modules associated with selected state and identify quote request modules associated with insurance type
406
Display all quote request modules to user
408
Customer inputs data
410
Each module takes input associated with it and places it in a predetermined location
412
Retrieve calculation modules (rating calculation) related to selected state and insurance type
414
Implement primary underwriting modules
416
Determine what are the quote generation modules (rating factors)
A

FIG 4A

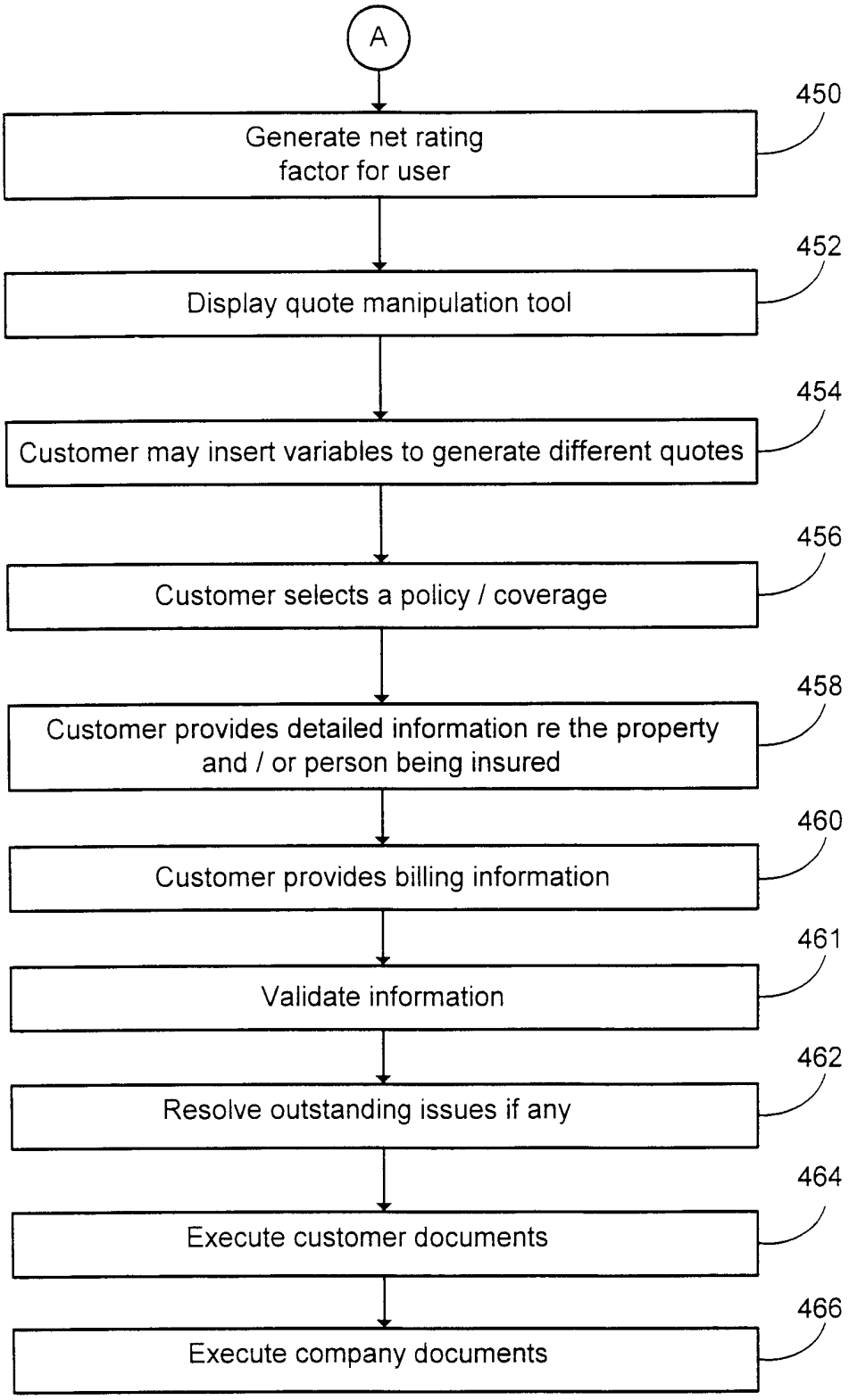
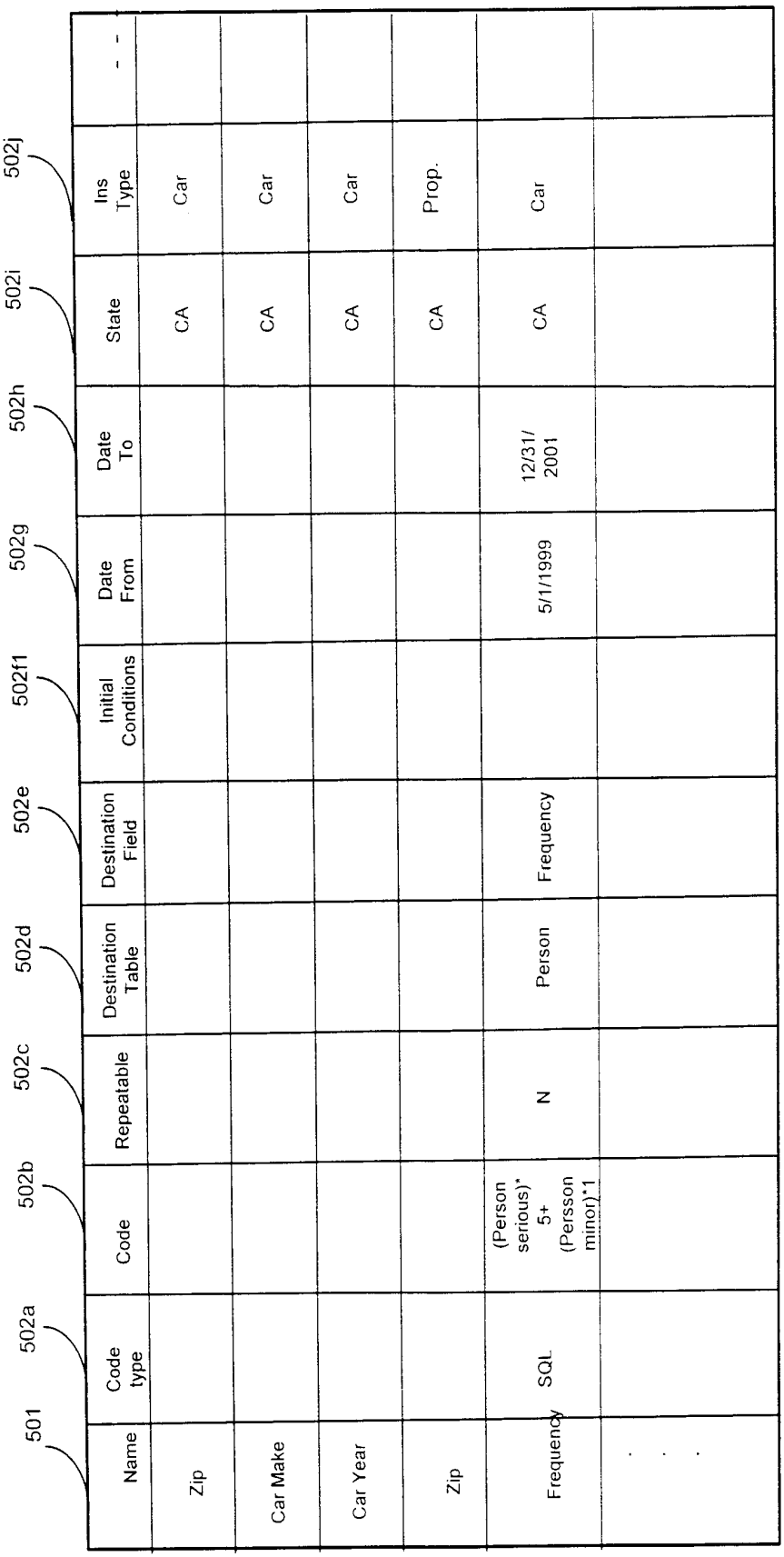

A
450
Generate net rating factor for user
452
Display quote manipulation tool
454
Customer may insert variables to generate different quotes
456
Customer selects a policy / coverage
458
Customer provides detailed information re the property and / or person being insured
460
Customer provides billing information
461
Validate information
462
Resolve outstanding issues if any
464
Execute customer documents
466
Execute company documents

FIG 4B



501 Name	502a Code type	502b Code	502c Repeatable	502d Destination Table	502e Destination Field	502f1 Initial Conditions	502g Date From	502h Date To	502i State	502j Ins Type	- -
Zip									CA	Car	
Car Make									CA	Car	
Car Year									CA	Car	
Zip									CA	Prop.	
Frequency	SQL	(Person serious)* 5+ (Persson minor)*1	N	Person	Frequency		5/1/1999	12/31/ 2001	CA	Car	
. . .											

500 Modules Table

FIG 5

FIG 6A

Person Table

600

Names	Address	Phone	Zip	Frequency	Serious Accidents	Minor Accidents
Joe Smith	1010 Crach St, Hazardville, Ca	(510) 123-1234	91050	4	4	6
Jane Unsmith	. . .	. . .	. . .	. . .	. . .	. . .
. . .	. . .	. . .	. . .	. . .	. . .	. . .

FIG 6B

Frequency Table

610

Zip	Rating
94022	7
91050	2
. . .	. . .

Collections 630

Collection - ID	Element - ID	Sort-order
8	9	
8	27	

FIG 6D

Meta Collection 650

Name	Module	Collection
EFT	19	8 (billing pg content)
EFT	35	11 (billing processing)

FIG 6F

Mappings 620

Module	State	Ins Type	Date From	Date to	Type of module
Car	CA	Car	1/1/99	12/31/99	Quote Request
Zip	CA	Car	1/1/99	12/31/99	Quote Request
Frequency	WA	Car	1/1/99	12/31/99	Under writing
Frequency Rating	WA	Car	1/1/99	12/31/99	Quote Generation

FIG 6C

Collections 640

Name	Module	Date from	Date to
Car	Car make		
Car	Car year		
Car			

FIG 6E

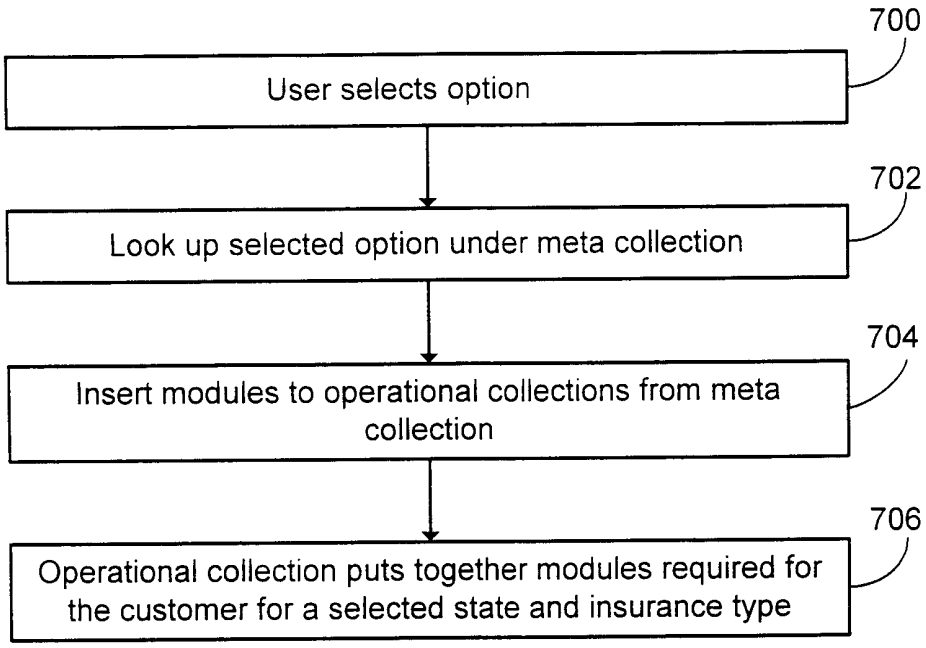

700
User selects option
702
Look up selected option under meta collection
704
Insert modules to operational collections from meta collection
706
Operational collection puts together modules required for the customer for a selected state and insurance type

FIG 7

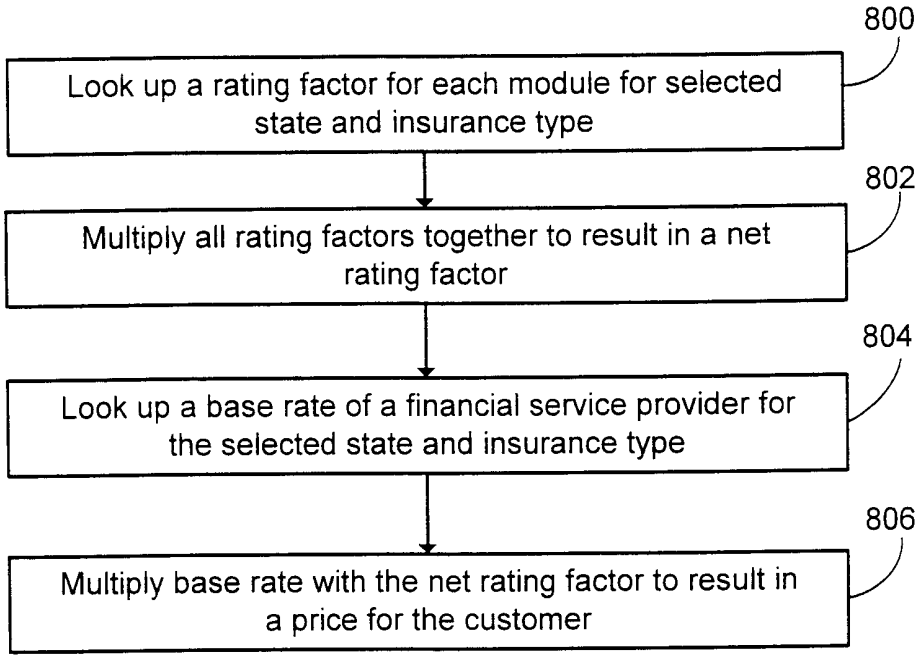

800
Look up a rating factor for each module for selected state and insurance type
802
Multiply all rating factors together to result in a net rating factor
804
Look up a base rate of a financial service provider for the selected state and insurance type
806
Multiply base rate with the net rating factor to result in a price for the customer

FIG 8

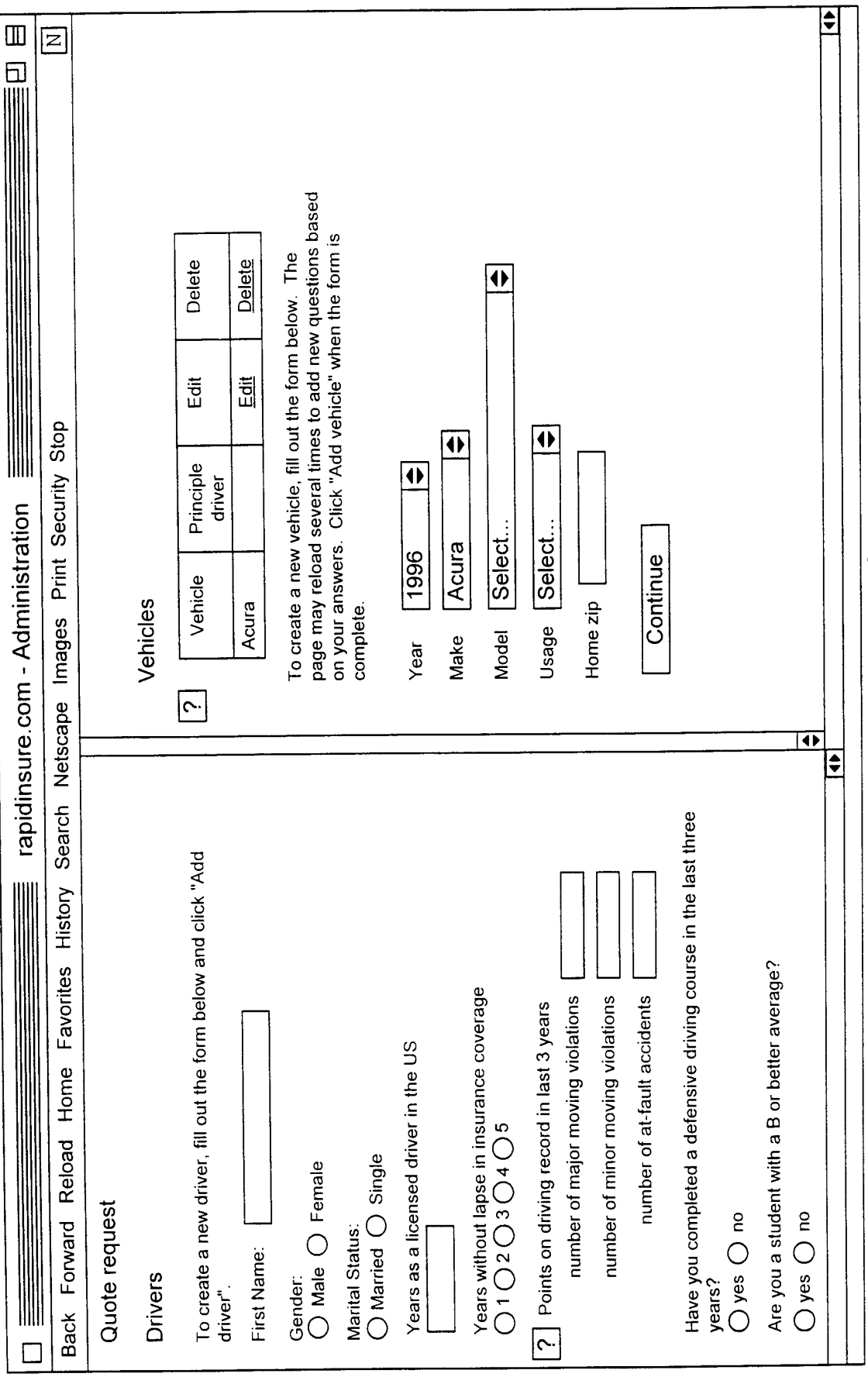

rapidinsure.com - Administration
Back Forward Reload Home Favorites History Search Netscape Images Print Security Stop
Quote request
Drivers
To create a new driver, fill out the form below and click "Add driver".
First Name:
Gender:
Male Female
Marital Status:
Married Single
Years as a licensed driver in the US
Years without lapse in insurance coverage
1 2 3 4 5
Points on driving record in last 3 years
number of major moving violations
number of minor moving violations
number of at-fault accidents
Have you completed a defensive driving course in the last three years?
yes no
Are you a student with a B or better average?
yes no
Vehicles
Vehicle
Principle driver
Edit
Delete
Acura
Edit
Delete
To create a new vehicle, fill out the form below. The page may reload several times to add new questions based on your answers. Click "Add vehicle" when the form is complete.
Year 1996
Make Acura
Model Select...
Usage Select...
Home zip
Continue

Figure 9

SUBSTITUTE SHEET (RULE 26)

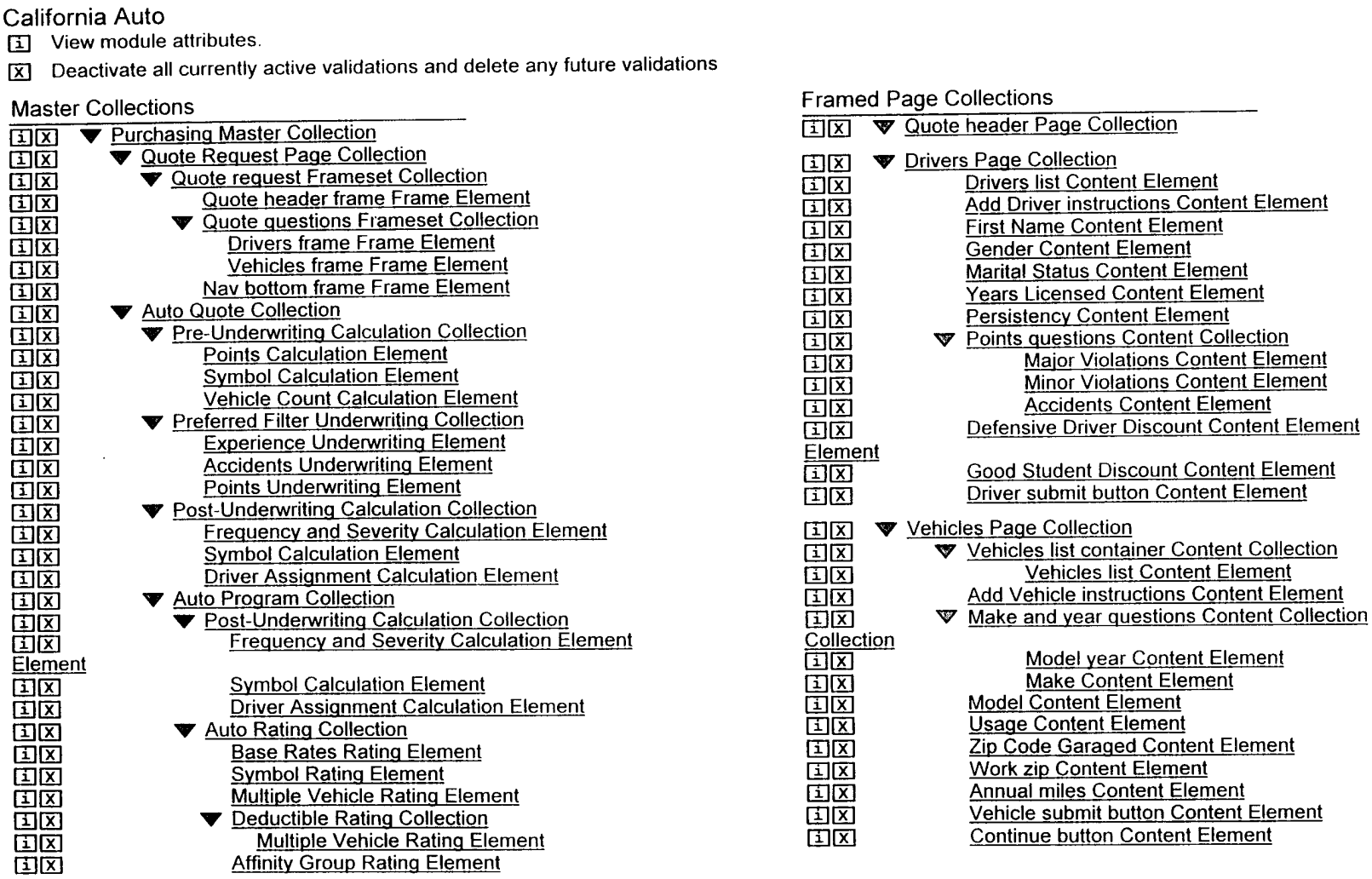


Figure 10A

Other Validated Modules
Coverage Defaults Calculation Element
Deductible Defaults Calculation Element
Good Driver Calculation Element
Car Content Collection
Driver Content Collection
Test Collection Content Collection
Age Content Element
New Driver Content Element
Points Content Element
Points help Content Element
Series Content Element
Vehicles list help Content Element
Test Page Collection
Frequency Rating Element
Increased Limits Rating Element
Severity Rating Element
Mature Driver Rating Element
Model Year Rating Element
Anti-Theft Rating Element
Class Factor Rating Collection
Points Rating Element
Annual Mileage Rating Element
Experience Rating Element
Gender Rating Element
Martial Status Rating Element
Good Student Rating Element
Usage Rating Element
Persistency Rating Element
Multiple Policy Rating Element
Good Driver Rating Element
Coverage Page Collection
Asset Information Page Collection
Billing Information Page Collection
Credit Card External Element
MVR External Element
Post-MVR Calculation Collection
Validate MVR Calculation Element
ID Cards (HTML) Document Element
ID Card (PDF) Document Element
Policy (HTML) Document Element
Policy (PDF) Document Element
PSIC External Element
Receipt Page Collection

Figure 10B

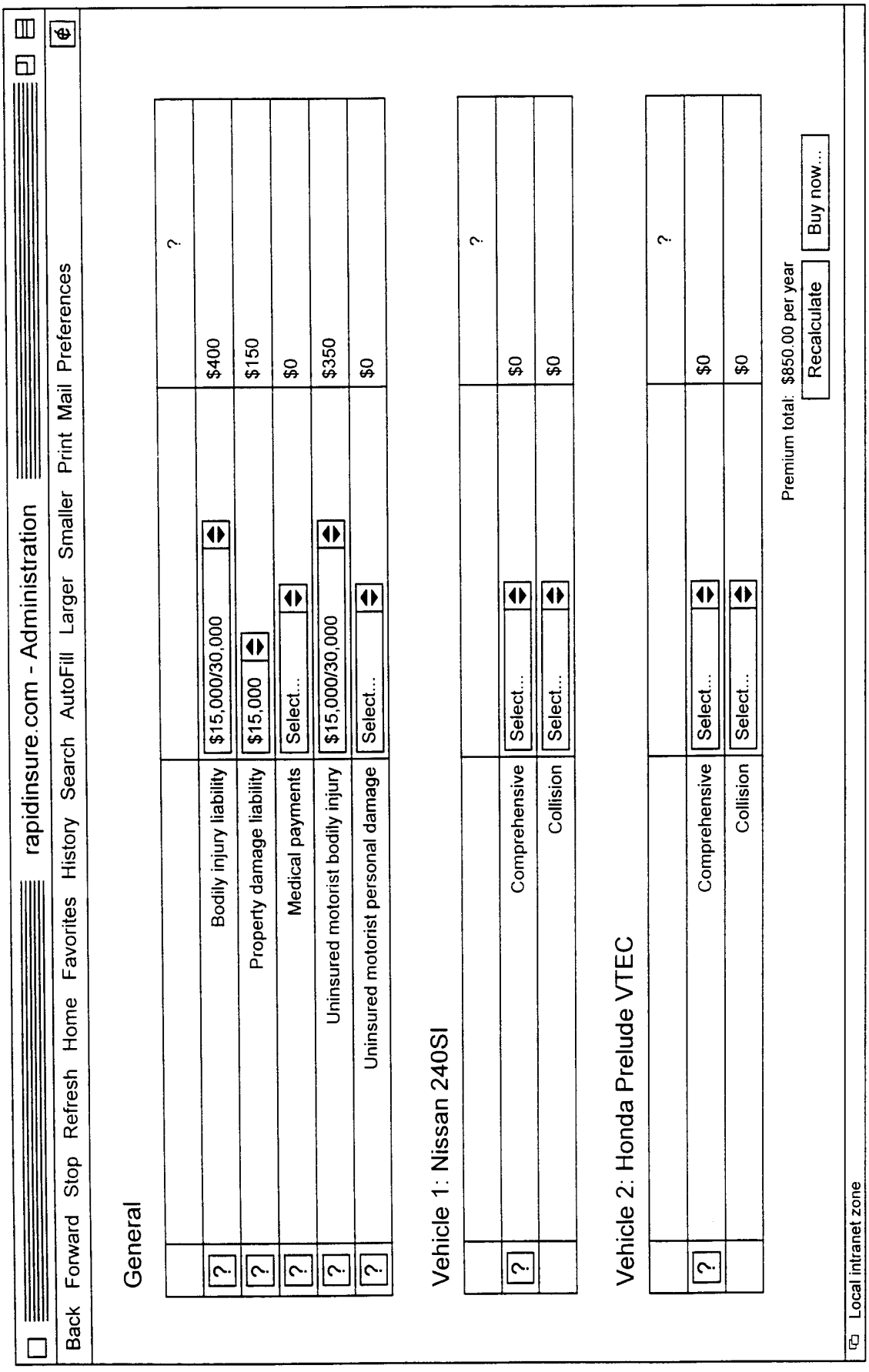

rapidinsure.com - Administration
Back Forward Stop Refresh Home Favorites History Search AutoFill Larger Smaller Print Mail Preferences
General
?
Bodily injury liability
$15,000/30,000
$400
Property damage liability
$15,000
$150
Medical payments
Select...
$0
Uninsured motorist bodily injury
$15,000/30,000
$350
Uninsured motorist personal damage
Select...
$0
Vehicle 1: Nissan 240SI
?
Comprehensive
Select...
$0
Collision
Select...
$0
Vehicle 2: Honda Prelude VTEC
?
Comprehensive
Select...
$0
Collision
Select...
$0
Premium total: $850.00 per year
Recalculate
Buy now...
Local intranet zone

Figure 11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/21181

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 19/00
US CL :705/34, 35,36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/34, 35,36

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST 2.0

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 4,837,693 A (SCHOTZ) 06 June 1989, col. 4 L 65- col. 5 L 52, col. 8 L 6- col. 9 L 35, Figures 5-10	1-11, 13-17, 26-28
A	US 5,752,236 A (SEXTON et al) 12 May 1998, col. 4 L12- col. 6 L25	1-11, 15 26-28
A	US 5,855,005 A (SCHULER et al) 29 December 1998, entire document	1-11, 15, 26-28
A	US 5,907,828 A (MEYER et al) 25 May 1999, entire document	1-11, 15, 26-28

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 18 OCTOBER 2000	Date of mailing of the international search report 14 NOV 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer VINCENT MILLIN Telephone No. (703) 308-1065

Form PCT/ISA/210 (second sheet) (July 1998)★