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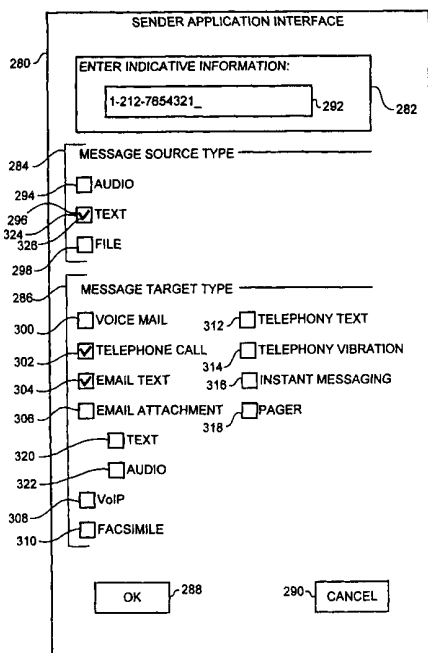
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(54) Title: METHOD AND SYSTEM FOR RETRIEVING INFORMATION



(57) Abstract: Method for managing communication related information, including the steps of receiving an indicative information query from a user, accessing an information associated database, thereby detecting records which are compatible with the content of the indicative information query, and retrieving communication related information items, associated with the content of the indicative information query.



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METHOD AND SYSTEM FOR RETRIEVING INFORMATION

FIELD OF THE INVENTION

The present invention relates to methods and systems for
5 retrieving information in general, and to methods and systems for
retrieving communication oriented information, in particular.

BACKGROUND OF THE INVENTION

Methods and systems for retrieving information are known in the
10 art. Web oriented information is conventionally retrieved using web
oriented search engines such as AltaVista, Yahoo, and the like. These
search engines operate according to either classifications or keywords.

It is noted that these methods do not provide easy access to
web oriented information, such as web site addresses using unified
15 resource locators (URLs) and Email addresses. In addition, each of these
search engines is able to access only a fraction of the web pages, which
are available over the web.

Furthermore, these methods do not provide definitive results.
When searching for such web oriented information, a search engine often
20 retrieves additional information, which partially matches the original query,
thus increasing the overall results, which are presented to the user.

One of the problems of large communication networks, is the
similarities in addresses. A change of one letter in the Email address of a
message can send this message to a third party, other than the original
25 sender and receiver. Where such third party address exists, he will receive
a message, which was not intended for his eyes.

SUMMARY OF THE PRESENT INVENTION

It is an object of the present invention to provide a novel method and system for retrieving communication oriented information, which overcomes the disadvantages of the prior art.

5 In accordance with the present invention, there is thus provided a method for managing communication related information. The method includes the steps of receiving an indicative information query from a user, accessing an information associated database, and retrieving communication related information items. When the information
10 associated database is accessed, records which are compatible with the content of the indicative information query, are detected. The communication related information items are associated with the content of the indicative information query.

The method further includes the preliminary steps of forwarding
15 a message to the information associated database, and receiving the message from a source. The type of the source can be audio, text, a file, and the like. The type of the file can be audio, text, image, and the like.

The method further includes the preliminary step of selecting at
20 least one message target type, wherein the message target type is selected from the list of communication related information items. The message target type can be voice mail, telephone call, Email text, Email attachment, Email audio, voice over IP, facsimile, telephony text messaging, telephony vibration, instant messaging, pager, graphic, and the like. The Email attachment target can be text, audio, and the like. The
25 graphic target can be facsimile, Email attachment, and the like. The method further includes the preliminary step of selecting the source.

The method further includes the steps of rendering the message according to the selected message target type, and forwarding the message to the selected message target type. The method further
30 includes the steps of detecting records which are compatible with the

content of the indicative information, and receiving at least one action instruction from the user. The method further includes the step of prompting a web based application respective of at least one of the action instructions, and providing respective ones of the retrieved communication
5 related information items, as input for the web based application.

The method further includes the step of retrieving general information items, associated with the content of the indicative information query. The general information item can be a telephone string, an identification string, a social security string, a residence address string, a
10 mailing address string, a name of an entity, and the like. The indicative information query includes a portion of an information object. The information object can be a telephone string, an identification string, a social security string, a residence address string, a mailing address string, a name of an entity, and the like.

15 The communication related information item can be an electronic mail string, an electronic mail server string, a web server address string, a unified resource locator (URL), a security key, and the like. The web based application can be an electronic mail application, a browsing application, and the like.

20 The method further includes the steps of scanning an existing database, producing a record for each entity of the existing database, and receiving a request to access a selected one of the records. The method further includes the steps of receiving communication related information items, associated with the selected record, and storing the communication
25 related information items in the information associated database. When producing a record for each entity of the existing database, the information associated database is produced. The communication related information items are stored in association with the record.

The existing database can be an information directory, and the
30 like. The information directory can contain items such as a telephone

string, a facsimile string, an identification string, a social security string, a residence address string, a mailing address string, a security key, name strings of an entity, and the like. The communication related information item can be an electronic mail string, a unified resource locator, a security key, and the like. Each record includes a plurality of information database items. The information database item can be a telephone string, a facsimile string, an identification string, a social security string, a residence address string, a mailing address string, name strings of an entity, an electronic mail string, a unified resource locator, a security key, and the like.

In accordance with another aspect of the present invention, there is thus provided a system for managing communication related information. The system includes means for receiving an indicative information query from a user, means for accessing an information associated database, and means for retrieving communication related information items. When accessing the information associated database, records which are compatible with the content of the indicative information query, are detected. The communication related information items are compatible with the content of the indicative information query.

The system further includes means for forwarding a message to the information associated database, and means for receiving the message from a source. The type of the source can be audio, text, file, and the like. The type of the file can be audio, text, image, and the like.

The system further includes means for selecting at least one message target type, wherein the message target type is selected from the list of communication related information items. The message target type can be voice mail, telephone call, Email text, Email attachment, Email audio, voice over IP, facsimile, telephony text messaging, telephony vibration, instant messaging, pager, graphic, and the like. The Email

attachment target can be text, audio, and the like. The graphic target can be facsimile, Email attachment, and the like.

The system further includes means for selecting the source, means for rendering the message according to the type of the message target type, and means for forwarding the message to the message target type. The system further includes means for detecting records which are compatible with the content of the indicative information, and means for receiving at least one action instruction from the user. The system further includes means for prompting a web based application respective of at least one of the action instructions, and providing respective ones of the retrieved communication related information items as input for the web based application.

The system further includes means for retrieving general information items, associated with the content of the indicative information query. The general information item can be a telephone string, an identification string, a social security string, a residence address string, a mailing address string, a name of an entity, and the like.

The indicative information query includes at least a portion of an information object. The information object can be a telephone string, an identification string, a social security string, a residence address string, a mailing address string, a name of an entity, and the like. The communication related information item can be a telephone string, a facsimile string, an identification string, a social security string, and the like. The communication related information item can also be a residence address string, a mailing address string, name strings of an entity, an electronic mail string, an electronic mail server string, a web server address string, a unified resource locator (URL), a security key, and the like. The web based application can be an electronic mail application, a browsing application, and the like.

In accordance with a further aspect of the present invention, there is thus provided a method for creating an information database. The method includes the steps of scanning an existing database, producing a record for each entity of the existing database, and receiving a request to
5 access a selected record. The method further includes the steps of receiving communication related information items, associated with the selected record, and storing the communication related information items in the information database, in association with the record. When producing a record for each entity of the existing database, an information
10 database is produced. The existing database can be an information directory, and the like. The information directory contains items such as a telephone string, a facsimile string, an identification string, a social security string, a residence address string, a mailing address string, a security key, name strings of an entity, and the like.

15 The communication related information item can be an electronic mail string, a unified resource locator, a security key, and the like. Each record includes a plurality of information database items. An information database item can be a telephone string, a facsimile string, an identification string, a social security string, a residence address string, a
20 mailing address string, name strings of an entity, an electronic mail string, a unified resource locator, a security key, and the like.

In accordance with another aspect of the present invention, there is thus provided a method for expanding an existing information database, wherein the existing information database includes a plurality of
25 records. The method includes the steps of receiving a request to access a selected record, receiving communication related information items, associated with the selected record, and storing the communication related information items in association with the record.

In accordance with a further aspect of the present invention,
30 there is thus provided an Email address which includes indicative

information for the account field of a recipient, and an identification of an association server, for the domain field of the recipient. The indicative information can be a telephone string, an identification string, a social security string, a residence address string, a mailing address string, a
5 name of an entity, and the like. The indicative information includes a combination of at least one area code symbol and a telephone number.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be understood and appreciated more fully from the following detailed description taken in conjunction with the drawings in which:

5 Figure 1 is a schematic illustration of a web server, an Email server, a plurality of web users and a system, constructed and operative in accordance with a preferred embodiment of the present invention;

 Figure 2 is a schematic illustration in detail of the storage unit of the system of Figure 1;

10 Figure 3A is a schematic illustration of a user application interface (client), at an initial stage, constructed and operative in accordance with another preferred embodiment of the present invention;

 Figure 3B is a schematic illustration of the user application interface of Figure 3A, at a later stage;

15 Figure 4 is a schematic illustration of a method for operating the system of Figure 1, operative in accordance with a further preferred embodiment of the present invention;

 Figure 5 is a schematic illustration of a method for preparing an information database, operative in accordance with another preferred
20 embodiment of the present invention;

 Figure 6 is a schematic illustration of a sender application interface, operative in accordance with a further preferred embodiment of the present invention;

 Figure 7 is a schematic illustration of a recipient application
25 interface, operative in accordance with another preferred embodiment of the present invention;

 Figure 8 is a schematic illustration of an Email application window, operative in accordance with a further preferred embodiment of the present invention;

Figure 9 is a schematic illustration of a method for sending a message, operative in accordance with another preferred embodiment of the present invention; and

5 Figure 10 is a schematic illustration of a method for sending a message, operative in accordance with a further preferred embodiment of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The present invention overcomes the disadvantages of the prior art by providing a method which associates indicative information with communication oriented information. For example, the method of the present invention, associates the telephone number of an entity (such as a person or an establishment) with its Email address.

The system of the present invention provides means for storing and retrieving the communication oriented information, according to a query which includes indicative information, associated with the requested communication oriented information.

Reference is now made to Figure 1, which is a schematic illustration of a web server, generally referenced 120, an Email server, generally referenced 140, a plurality of web users, generally referenced 112, 114, 116 and 118 and a system, generally referenced 100, constructed and operative in accordance with a preferred embodiment of the present invention. System 100 is an association server, which includes a processor 102, a communication interface 106, and a storage unit 104. Processor 102 is connected to storage unit 104 and to communication interface 106.

The web server 120 includes two web sites, A (reference 130) and B (reference 122). Web site 122 includes two web pages 124 and 126. Web site 130 includes four web pages 132, 134, 136 and 138. Each of the web sites 122 and 130 is associated with an address within web server 120. Each of the web pages is associated with an address within the respective web site.

Email server 140 includes a plurality of Email accounts 142, 144, 146, 148, 150 and 152. Each of users 112, 114, 116 and 118 is associated with a respective Email account 142, 144, 146 and 148.

Association server 100, web server 120, electronic mail server 140 and the users 112, 114, 116 and 118 are all interconnected via

network 110. It is noted that network 110 is conventionally a wide area network such as the Internet, which includes a very large number of web servers and Email servers, providing services to a very large number of users. Other network structures such as intra-net and virtual private
5 networks (VPN) are also applicable for the present invention, where the number of addresses (site, page and Email) and users is significantly large.

Reference is further made to Figure 2, which is a schematic illustration in detail of storage unit 104 of system 100 of Figure 1. Storage
10 unit 104 contains a database 150, which includes a plurality of records, generally referenced 152A, 152B, 152C and 152N. Each of the records associates between a plurality of personal information items of a plurality of entities.

In the example presented in Figure 2, these entities include a
15 plurality of users. The information items include the telephone number, the name, the Email address and a unified resource locator (URL), which are associated therebetween for each of the users.

The input for such a search includes information, which has associative meaning to the searching user, such as a telephone number or
20 even a portion of a telephone number (when this is the information that the searching user can recall with respect to his query). Hence, a search with respect to a portion of an identity string such as the first five digits of a social security number, adding masks and the like are also available as input for such information items.

25 It is noted that the identity of each of the users is determined according to the nature of this user. When the user is a person, then the identity thereof includes a first and a last name, a social security number, and the like. When the user is a legal entity such as a corporation, then the identity thereof includes the corporation name, the identification string
30 thereof in the respective registry, and the like.

With respect to record 152A, telephone number 1-212-7654321 is associated with a user called John Smith Jr. where his Email address is john_smith@E-Mail.com and he has a web page having a URL of http://www.webpage.com/page_of_john_smith.

5 With respect to record 152C, telephone number 1-716-5522553 is associated with a user called Eric Cartman, where his Email address is big_bones@s_park.com and he has a web site having a URL of <http://www.southpark.com/>.

According to the present invention, each of these information
10 items can be used to retrieve the other items associated therewith, in the respective record. The match can either be unique or other. For example, a telephone number is often indicative of no more than one person. Hence, according to one aspect of the invention, a telephone number (for example, including a predetermined prefix) would preferably be used as a
15 key, since it offers near unique qualities.

Reference is further made to Figures 3A and 3B. Figure 3A is a schematic illustration of a user application interface (client), generally referenced 200, at an initial stage, constructed and operative in accordance with another preferred embodiment of the present invention.
20 Figure 3B is a schematic illustration of the user application interface of Figure 3A, at a later stage.

Each user 112, 114, 116 and 118 (Figure 1) runs an access application which is operative to receive a query therefrom, and access database 150 (Figure 2) of system 100 (Figure 1). User application
25 interface 200 includes a query section 202 including a query input field 204, a plurality of virtual buttons 206, 208 and 210, and a matched details display area 212. Button 206 can be used by the user to verify that the information items stored in database 150, which are associated with his query, are correct.

Reference is further made to Figure 4, which is a schematic illustration of a method for operating system 100 of Figure 1, operative in accordance with a further preferred embodiment of the present invention. In step 170, the indicative information query is received from the user. With respect to Figure 3A, a user (for example, reference 112) keys in the number 1-212-7654321. In addition, action instructions are also received from the user (step 172). Such action instructions can include a GOTO command to access the URL which is associated with the indicative information, sending mail to the Email address which is associated with the indicative information, and the like. This query is provided to system 100 (Figure 1), where the database 150 is accessed there according (step 174).

In step 176, processor 102 retrieves information items, which are associated with the content of the indicative information query. With respect to Figure 2, record 152A includes a telephone number, which is identical to the entered number. Hence, the record associates any of the rest of the information items contained therein, with this telephone number. From the information items included in the selected record, communication related information items are retrieved, in accordance with the action instructions (step 178). For example, where the entered action instruction includes a GOTO URL command, then the communication related information item is the URL information item (i.e., http://www.webpage.com/page_of_john_smith).

In step 180, a web-based application, which is respective of at least one of the action instructions, is prompted. The user application interface can initiate such a web based application. For example, where the action instruction includes sending Email, then the communication related information item is the Email address (i.e., john_smith@E_Mail.com) and the respective web based application is an

Email application such as EUDORA, OUTLOOK, and the like, prompted with the retrieved Email address.

With reference to Figure 3B, the user can select the action instruction just by clicking with a cursor 220 on one of the buttons 206, 208, or 210. Button 206 initiates a detailed verification display prodder, in which the details of the person, which is associated with the selected record, are displayed. In the present example, the details of Mr. John Smith are displayed in matched details display area 212. Button 208 initiates a web browser with the URL associated with the selected record. Button 210 initiates an Email application with the Email address associated with the selected record.

According to another aspect of the invention, there is provided a method for creating an information database, from existing databases, such as telephone directories and the like.

Reference is further made to Figure 5, which is a schematic illustration of a method for preparing an information database, operative in accordance with another preferred embodiment of the present invention. In step 250, an existing database, such as a local telephone directory is scanned, for producing the information database. Such database includes information regarding entities, such as name, telephone number and address. With respect to the system of Figure 1, processor 102 scans a local telephone directory, and stores selected data items in an information database, contained within storage unit 104.

In step 252, a record is created for each entity of the existing database, in the information database. Such an entity can include a person, a corporation, a government office and the like. With respect to Figure 2, records 152A, 152B, 152C, and 152N are created in storage unit 104.

In step 254, a request is received from a user, to access a record, which is associated therewith, (such as his/her own record, or the

record of a corporation which he is a member of) in the information database. In this step the user accesses his record for the first time. It is noted that his record existed beforehand and need not be created by this access request.

5 In step 256, communication related data is received from the user. The communication related data can include an Email address, a web site address (URL), and the like. It is noted that an intermediate step of verifying the identity of the user can be added between steps 254 and 256.

10 In step 258, the communication-related data is stored in the information database, associated with the respective record, thereby completing that record within the information database. With respect to the example set forth in Figure 2, records 152A, 152B, 152C, and 152N are updated, and thereby include the Email and URL data of the entities, in
15 addition to their telephone numbers and names.

 The method and system provided by the present invention, significantly facilitates the process of accessing communication oriented information. It is noted that the use of familiar information, such as a telephone number, or retrieving communication oriented information, also
20 reduces the probability of mistakes, which occur due to similarities between different URLs and Email addresses.

 It is further noted that any type of indicative information can be used as a key, for retrieving communication-oriented information. Preferably, this indicative information should not include web oriented
25 information, but personal information, such as the telephone number of the requested person, his residence address, his work address (associated with working place web oriented information), and the like.

 In accordance with a further aspect of the invention, the communication related information can be stored in association with a
30 record in an existing information database. Hence, no duplication of the

existing information database is required. According to this aspect, no expansion of the existing information database is required. The communication related information can be stored "next" to the information of the database, in an associated database.

5 In accordance with another aspect of the invention, a sender sends a message in a selected format, to at least one selected target of a recipient. The sender enters the indicative information of the recipient. An association server, then identifies the recipient according to the indicative information, and sends the message to the selected target, in a format
10 respective of the selected target. Alternatively, the association server can send the message to at least one target, previously selected by the recipient, in a format respective of the target.

Reference is now made to Figure 6, which is a schematic illustration of a sender application interface, generally referenced 280,
15 operative in accordance with a further preferred embodiment of the present invention. Sender application interface 280 includes a query section 282, a message source type list 284, a message target type list 286, an OK button 288 and a cancel button 290. Query section 282 includes a query input field 292. Message source type list 284 includes an
20 audio source check box 294, a text source check box 296, and a file source check box 298.

Message target type list 286 includes a voice mail check box 300, a telephone call check box 302, an Email text check box 304, an Email attachment check box 306 and a voice over Internet protocol (VoIP)
25 check box 308. Message target type list 286 further includes a facsimile check box 310, a telephony text messaging check box 312, a telephony vibration check box 314, an instant messaging check box 316 and a pager check box 318. Email attachment check box 306 includes a text check box 320 and an audio check box 322.

Query section 282 and query input field 292, are analogous to query section 202 and query input field 204, respectively (Figure 3A). Source check boxes 294, 296 and 298, define the source through which the sender can enter a message. The sender can select one of source
5 check boxes 294, 296, or 298. Message target type list 286 provides the sender, a list of target media through which the recipient can receive the message. The sender selects a source or a target (such as 294, 296, 298, 300, 302, 304, 308, 310, 312, 314, 316, 318, 320 and 322), by marking a box such as box 324, with a selection mark such as mark 326. The sender
10 can select box 324 by clicking on it with a pointing device (not shown), whereby mark 326 is displayed in box 324.

Audio check box 294 defines the source as audio, whereby the system receives the message from the sender through a microphone (not shown). Text check box 296 defines the source as a text, whereby the
15 system receives the message from the sender through a keyboard (not shown). File check box 298 defines the source as a file, which can be textual, audio, graphic file or other, whereby the sender can send the file to the recipient. The textual file can be in any conventional format, such as Microsoft Word, PageMaker, ASCII and the like. The audio file can also be
20 in any conventional format, such as WAV, Musical Instrument Digital Interface (MIDI), General MIDI (GM), MPEG audio elementary stream (e.g., MP3), and the like. The graphic file can be in any conventional format, such as TIFF, GIF, JPEG, PDF, and the like.

The sender enters an indicative information query, such as the
25 telephone number of the recipient, in query input field 292. The sender can select audio check box 294 from message source type list 284, and an audio type from message target type list 286, such as voice mail check box 300. The sender forwards the audio message or file to the association server (not shown). The association server identifies the recipient,
30 respective of the indicative information query. The association server then

routes the message, to the selected target, such as the voice mail service provider of the recipient. The recipient, then receives the message in his voice mailbox.

If the sender forwards an audio message to a text target of the recipient, such as Email text check box 304, then the association server renders the message to text format. The association server uses a speech recognition engine, to render the message to text format. If the selected source and the selected target are of the same format (i.e., both are text, or both are audio), then the rendering process is eliminated. If the speech recognition engine does not recognize a portion of the phonemes of the audio message, then the association server can either notify the sender, and request the sender to correct the message, or send the unrecognized portion to an audio related target. Furthermore, if the audio message includes non-verbal sounds, such as music, substantially strong background noise, and the like, then the association server can notify the sender, reject the forwarding request or forward the message in audio format.

The sender application captures the audio message, and sends it to the association server. The association server, then renders the audio message to an equivalent textual message, by employing the speech recognition engine. Alternatively, the sender application uploads an applet from the association server, the applet captures the audio message, and the sender application sends the audio message to the association server. The association server, then renders the message to text format.

Alternatively, if the sender forwards a text message to an audio target of the recipient, then the association server renders the message, from text format to audio format, by employing a speech synthesizer. The association server, then sends the equivalent audio message to the recipient target.

If the sender requests to forward an audio or text message to a target, and the message is longer than a predetermined amount allowed by the respective target, then the association server can notify the sender, reject the request or split it into a plurality of messages. The association
5 server can request the sender to confirm sending a predetermined beginning section of the message, corresponding to the requirements of the respective target, or request the sender to modify the message according to the respective requirement. Alternatively, the association server can request the sender to confirm sending a suggested summary of
10 the message.

If the sender selects Email attachment check box 306, then the recipient receives the message, as an attachment, in the same format (audio or text) which the sender sends. When the sender selects text
15 check box 320 or audio check box 322 of Email attachment check box 306, he indicates to the association server that the message has to be rendered (i.e., from audio to text, from text to image, or vice versa). For example, if the message is in audio format, and the sender requests to send it to the recipient as a text attachment, then the sender has to select text check box 320.

20 If the sender selects telephony text messaging check box 312, then the audio or textual message is displayed as text, on the telephone set of the recipient. If the sender requests to send an audio message to telephony messaging target 312 of the recipient, then the association server renders the audio message, to text format, by default.

25 If the sender requests to send an audio or textual message, to a telephony device, which has vibration capabilities, then the sender selects telephony vibration check box 314, in addition to voice mail check box 300, telephone call check box 302, or telephony text messaging check box 312. The association server, then produces a remote vibration activation

command, and sends the remote vibration activation command as a notification to the recipient that an audio or a textual message will follow.

If the sender requests to send an image file to the recipient, then the recipient receives the image file as an Email attachment, by default. If
5 the sender selects facsimile check box 310, then the recipient receives the image file as a facsimile.

When the sender selects telephone call check box 302, the association server routes the message in audio format, to an exchange, such as a public switched telephone network (PSTN) exchange, a private
10 automatic branch exchange (PABX), and the like. The recipient, then hears the message on his telephone set, immediately after answering the call. The telephone set of the recipient can be a conventional telephone set, a cellular telephone, an IP telephone, and the like.

When the sender selects Email text check box 304, the
15 association server routes the message in text format, to the server of the recipient, and the recipient receives the message as a text Email, through his Email application. When the sender selects VoIP check box 308 and sends the message to the association server, the association server establishes connection with the recipient server, and checks if the recipient
20 is logged onto the Internet. If the recipient is logged on, then the association server sends the message as a telephone call, to the computer device of the recipient.

When the sender selects instant messaging check box 314, the association server checks if the recipient is logged on to an instant
25 messaging service, such as ICQ, and the like. If the recipient is logged on, then the association server sends the message in text format, to the recipient. When the sender selects pager check box 316, the association server sends a textual message to the paging service provider of the recipient, and the recipient receives the message as a text on his pager

device. The above embodiments can be implemented according to any messaging specification such as WAP, and the like.

The sender confirms message source type list 284 and message target type list 286, by clicking OK button 288. Then, the sender application (not shown) prompts the sender to enter a message through the selected source, or select a file. The sender can cancel the selections, by clicking on cancel button 290. Alternatively, the sender can initially prepare the message or select the file, and then enable sender application interface 280. Then, the sender selects at least one target from message target type list 286, and confirms the selection by clicking OK button 288. The sender application, then forwards the message or file to the association server.

It is noted that any of the target types can include multiple targets, of the same type (e.g., the recipient can define a plurality of Email addresses, which the message is directed to). In addition, the message can be directed only to selected targets of the same type (e.g., a message is directed to two voicemail target destinations which are selected out of a list of five voicemail target destinations).

According to the example shown in Figure 6, the sender initially enters the telephone number 1-212-7654321 of the recipient, in query input field 292. The sender then selects text check box 296, telephone call check box 302, and Email text check box 304. The sender clicks OK button 288. The sender responds to a prompt of the sender application, by entering a message through the keyboard, and clicking an OK button (not shown). The sender application, then forwards the message to the association server.

The association server renders a copy of the textual message, to an equivalent audio message. The association server, then determines the Email address of the recipient, corresponding to the telephone number of the recipient, and forwards the textual version of the message to the Email

address of the recipient. The association server, also routes the audio version of the message to the telephone number of the recipient as a telephone call. When the recipient picks up the phone at the other end, then the association server plays the message thereto.

5 In accordance with a further aspect of the present invention, the recipient can select at least one default target, regardless of the target selection of the sender, which can add to or replace the selection of the sender. Reference is now made to Figure 7, which is a schematic illustration of a recipient application interface, generally referenced 350,
10 operative in accordance with another preferred embodiment of the present invention.

 Recipient application interface 350 includes a voice mail check box 352, a telephone call check box 354, a VoIP check box 356, a telephony text messaging check box 358 and a telephony vibration check
15 box 360. Recipient application interface 350 further includes an Email text check box 362, an Email audio check box 364, a facsimile check box 366, a pager check box 368, an instant messaging check box 370, a graphic check box 372, an OK button 374 and a cancel button 376. Graphic check box 372 further includes facsimile check box 378 and Email attachment
20 check box 380.

 By selecting at least one target in recipient application interface 350, the recipient commands the association server, to forward a message from the sender, to the selected targets. In the example shown in Figure 7, the recipient has selected voice mail check box 352, telephone call check
25 box 354, Email text check box 362 and facsimile check box 378 for graphic files. If the sender sends the recipient a textual message, then the recipient receives the message as a voice mail, as a telephone call and as an Email. If the sender sends the recipient an image in graphic format, then the recipient receives the image as a facsimile.

It is noted that the protocol installed on the association server, dictates the priority between the target selections of the sender and the recipient. For example, if the recipient has set his default targets, then the association server ignores any targets, which the sender consequently
5 selects. Alternatively, if the recipient does not set any default target, then the sender can select at least one target, and the association server accepts that selected target. Further alternatively, if both the sender and the recipient select targets, then the association server accepts the targets which the sender had selected, and ignores the targets which the recipient
10 selects.

Reference is now made to Figure 8, which is a schematic illustration of an Email application window, generally referenced 400, operative in accordance with a further preferred embodiment of the present invention. Email application window 400 includes a query input
15 field 402, an Email text field 404, an Email attachment 406 and a send button 408.

The sender enters the Email address of the recipient in query input field 402. The Email address includes an indicative information for the account field of the recipient, and the identification of the association
20 server, for the domain field. Such an Email address can be for example, 1-121-7654321@MSG_DOMAIN.COM, where 1-212-7654321 is the telephone number of the recipient, and MSG_DOMAIN designates the association server.

Alternatively, the indicative information for the account field of
25 the recipient, can include at least one area code symbol and the local telephone number of the recipient. The area code symbol can include the name of the country of the recipient, the name of the state of the recipient, and the like. For example, the symbol "US" can designate the area code for The United States, and the symbol "NY" can designate the area code
30 for the state of New York. For example, the Email address can be

US.NY.7654321@MSG_DOMAIN.COM where US designates the area code for The United States, NY designates the area code for the state of New York. The number 7654321 is the local telephone number of the recipient, and MSG_DOMAIN designates the association server.

5 The sender enters an Email text message in Email text field 404. The sender forwards the Email text message to the association server, by clicking send button 408. The association server retrieves at least one target, which the recipient had previously selected in recipient application interface 350. If the selected target is an audio type, then the association
10 server renders the Email text message to audio format. The association server, then determines the user name of the recipient according to the indicative information indicated in query input field 402, and forwards the message to the selected targets of the recipient.

 Alternatively, the user can insert Email attachment 406 in Email
15 window 400, or both an Email text message and Email attachment 406. Email attachment 406 can be a file in either text, audio, or image format. If the sender inserts an Email attachment in textual or audio format, then the recipient can receive the message in any of the targets of recipient application interface 350, except graphic target 372. In case the Email
20 attachment is in textual or audio format, and the recipient has selected only graphic target 372, then the association server can display an error message in the sender application interface (not shown). Alternatively, the association server can forward the Email attachment to a target of the recipient, in the format of the Email attachment.

25 If the Email attachment is an image, and if the recipient has selected either facsimile check box 378 or Email check box 380, then the recipient receives the image either as a facsimile message or an Email attachment, respectively. The recipient can select both facsimile check box 378 and Email check box 380, whereby he receives the image both as a
30 facsimile message and as an Email attachment.

It is noted that when the sender requests to send an Email text message or an Email attachment to the recipient, he does not have the option to select the target. Thus, the recipient selects at least one target from recipient application interface 350 (Figure 7).

5 Reference is now made to Figure 9, which is a schematic illustration of a method for sending a message, operative in accordance with another preferred embodiment of the present invention. In step 420, the indicative information is received. With reference to Figure 6, the sender enters the telephone number of the recipient, in query input field
10 292.

In step 422, a source is selected. With reference to Figure 6, the sender selects a check box in message source type list 284, such as text check box 296. In step 424, at least one target is selected. With reference to Figure 7, the recipient selects voice mail check box 362, telephone call
15 check box 364, Email text check box 370 and facsimile check box 378 of graphic check box 372.

In step 426, a message according to the selected source is received. The sender enters the message to his computer device, via the media corresponding to the selected source, and forwards the message to
20 the association server (step 428). In step 430, the recipient corresponding to the indicative information, is identified. With reference to Figure 6, the association server identifies the recipient according to telephone number 1-212-7654321, which the sender had indicated in query input field 292.

In step 432, the message is rendered according to the selected
25 target. With reference to Figure 6, the sender had selected text check box 296, telephone call check box 302 and Email text check box 304. Therefore, the association server renders the textual message, to an equivalent audio format, in order to be heard on the telephone set of the recipient.

In step 434, the message is forwarded to at least one selected target of the recipient. With reference to Figure 6, the association server forwards the message in audio format to the telephone set of the recipient. The association server also sends the message in textual format to the
5 Email address of the recipient.

Reference is now made to Figure 10, which is a schematic illustration of a method for sending a message, operative in accordance with a further preferred embodiment of the present invention. In step 460, an Email address including an indicative information for the account field,
10 and the ID of an association server for the domain, is received. With reference to Figure 8, the sender enters Email address 1-212-7654321@MSG_DOMAIN.COM, in query input field 402. In step 462, an Email message is received. With reference to Figure 8, the sender enters an Email text message in Email text field 404. The sender, then
15 forwards the Email text message to the association server (step 464).

In step 466, the recipient is identified according to the indicative information. With reference to Figure 8, the association server identifies the recipient according to the telephone number of the recipient, i.e., 1-212-7654321. In step 468, at least one selected recipient target is
20 retrieved. With reference to Figure 7, the association server retrieves the targets 352, 354, 362, 372 and 378, which the recipient had previously selected.

In step 470, the message is rendered according to the selected recipient target. With reference to Figure 8, the source is an Email text
25 message (i.e., a message in textual format), while two of the selected targets, voice mail check box 352 and telephone call check box 354 (Figure 7), are in audio format. Because the source format and the target format do not match, the association server has to render the Email textual message, to an equivalent audio format. In step 472, the message is
30 forwarded to at least one selected target. With reference to Figure 7, the

message in audio format is sent to the voice mail and the telephone set of the recipient, and the same message in textual format is sent to the Email address of the recipient.

5 It will be appreciated by persons skilled in the art that the present invention is not limited to what has been particularly shown and described hereinabove. Rather the scope of the present invention is defined only by the claims, which follow.

CLAIMS

1. Method for managing communication related information, comprising the steps of:
 - receiving an indicative information query from a user;
 - 5 accessing an information associated database, thereby detecting records which are compatible with the content of said indicative information query; and
 - retrieving communication related information items, associated with the content of said indicative information query.
- 10 2. The method according to claim 1, comprising a preliminary step of forwarding a message to said information associated database.
- 15 3. The method according to claim 2, comprising a preliminary step of receiving said message from a source.
- 20 4. The method according to claim 3, wherein the type of said source is selected from the list consisting of:
 - audio;
 - text; and
 - a file.
- 25 5. The method according to claim 4, wherein said file is of a type selected from the list consisting of:
 - audio;
 - text; and
 - image.
- 30 6. The method according to claim 3, comprising a preliminary step of selecting at least one message target type.

7. The method according to claim 6, wherein said selected at least one message target type is selected from said communication related information items.
- 5
8. The method according to claim 6, wherein said selected at least one message target type is selected from the list consisting of:
- voice mail;
 - telephone call;
 - 10 Email text;
 - Email attachment;
 - Email audio;
 - voice over IP;
 - facsimile;
 - 15 telephony text messaging;
 - telephony vibration;
 - instant messaging;
 - pager; and
 - graphic.
- 20
9. The method according to claim 8, wherein said Email attachment target is selected from the list consisting of:
- text; and
 - audio.
- 25
10. The method according to claim 8, wherein said graphic target is selected from the list consisting of:
- facsimile; and
 - Email attachment.
- 30

11. The method according to claim 6, comprising a preliminary step of selecting said source.
12. The method according to claim 1, comprising a further step of rendering said message according to at least one selected message target type.
13. The method according to claim 12, comprising a further step of forwarding said message to said selected at least one message target type.
14. The method according to claim 13, comprising a further step of detecting records which are compatible with the content of said indicative information.
15. The method according to claim 14, further comprising the step of receiving at least one action instruction from said user.
16. The method according to claim 15, further comprising the step of prompting a web based application respective of at least one of said at least one action instruction, and providing respective ones of said retrieved communication related information items as input for said web based application.
17. The method according to claim 16, further comprising the step of retrieving general information items, associated with the content of said indicative information query.
18. The method according to claim 17, wherein said general information items are selected from the list consisting of:

- a telephone string;
an identification string;
a social security string;
a residence address string;
5 a mailing address string; and
a name of an entity.
19. The method according to claim 1, wherein said indicative information query includes at least a portion of at least one information object.
- 10
20. The method according to claim 19, wherein said at least one information object is selected from the list consisting of:
- a telephone string;
an identification string;
15 a social security string;
a residence address string;
a mailing address string; and
a name of an entity.
- 20
21. The method according to claim 1, wherein said communication related information items are selected from the list consisting of:
- an electronic mail string;
an electronic mail server string;
a web server address string;
25 a unified resource locator (URL); and
a security key.
22. The method according to claim 16, wherein said web based application are selected from the list, consisting of:
- 30 a name of an entity;
an electronic mail application; and

a browsing application.

23. The method according to claim 1, further comprising the steps of:
scanning an existing database;
5 producing a record for each entity of said existing database,
thereby producing said information associated database;
receiving a request to access a selected one of said records;
receiving communication related information items, associated
with said selected record; and
10 storing said communication related information items in said
information associated database, in association with said
record.
24. The method according to claim 23, wherein said existing database is
15 an information directory.
25. The method according to claim 24, wherein said information directory
contains items selected from the list, consisting of:
a telephone string;
20 a facsimile string;
an identification string;
a social security string;
a residence address string;
a mailing address string;
25 a security key; and
name strings of an entity.
26. The method according to claim 23, wherein said communication
related information items are selected from a list, consisting of:
30 an electronic mail string;

a unified resource locator; and
a security key.

5 27. The method according to claim 23, wherein each said record includes
a plurality of information database items, each said information
database items being selected from a list, consisting of:

a telephone string;
a facsimile string;
an identification string;
10 a social security string;
a residence address string;
a mailing address string;
name strings of an entity;
an electronic mail string;
15 a unified resource locator; and
a security key.

28. System for managing communication related information, comprising:
means for receiving an indicative information query from a user;
20 means for accessing an information associated database,
thereby detecting records which are compatible with the content of
said indicative information query; and
means for retrieving communication related information items,
associated with the content of said indicative information query.

25

29. The system according to claim 28, further comprising means for
forwarding a message to said information associated database.

30. The system according to claim 29, further comprising means for
30 receiving said message from a source.

31. The system according to claim 30, wherein the type of said source is selected from the list consisting of:
- audio;
 - 5 text; and
 - a file.
32. The system according to claim 31, wherein said file is of a type selected from the list consisting of:
- 10 audio;
 - text; and
 - image.
33. The system according to claim 30, further comprising means for
- 15 selecting at least one message target type.
34. The system according to claim 33, wherein said selected at least one message target type is selected from said communication related information items.
- 20
35. The system according to claim 33, wherein said selected at least one message target type is selected from the list consisting of:
- voice mail;
 - telephone call;
 - 25 Email text;
 - Email attachment;
 - Email audio;
 - voice over IP;
 - facsimile;
 - 30 telephony text messaging;

telephony vibration;
instant messaging;
pager; and
graphic.

5

36. The system according to claim 35, wherein said Email attachment target is selected from the list consisting of:

text; and
audio.

10

37. The system according to claim 35, wherein said graphic target is selected from the list consisting of:

facsimile; and
Email attachment.

15

38. The system according to claim 33, further comprising means for selecting said source.

39. The system according to claim 38, further comprising means for rendering said message according to the type of said at least one message target type.

20

40. The system according to claim 39, further comprising means for forwarding said message to said at least one message target type.

25

41. The system according to claim 40, further comprising means for detecting records which are compatible with the content of said indicative information.

42. The system according to claim 41, further comprising means for receiving at least one action instruction from said user.
43. The system according to claim 42, further comprising means for prompting a web based application respective of at least one of said at least one action instruction, and providing respective ones of said retrieved communication related information items as input for said web based application.
44. The system according to claim 43, further comprising means for retrieving general information items, associated with the content of said indicative information query.
45. The system according to claim 44, wherein said general information items are selected from the list consisting of:
- a telephone string;
 - an identification string;
 - a social security string;
 - a residence address string;
 - a mailing address string; and
 - a name of an entity.
46. The system according to claim 28, wherein said indicative information query includes at least a portion of at least one information object.
47. The system according to claim 46, wherein said at least one information object is selected from the list consisting of:
- a telephone string;
 - an identification string;
 - a social security string;

a residence address string;
a mailing address string; and
a name of an entity.

5 48. The system according to claim 28, wherein said communication related information items are selected from the list consisting of:

a telephone string;
a facsimile string;
an identification string;
10 a social security string;
a residence address string;
a mailing address string;
name strings of an entity;
an electronic mail string;
15 an electronic mail server string;
a web server address string;
a unified resource locator (URL); and
a security key.

20 49. The system according to claim 43, wherein said web based application is selected from the list, consisting of:

an electronic mail application; and
a browsing application.

25 50. Method for creating an information database, comprising the steps of:

scanning an existing database;
producing a record for each entity of said existing database,
thereby producing an information database;
receiving a request to access a selected one of said records;

receiving communication related information items, associated
with said selected record; and
storing said communication related information items in said
information database, in association with said record.

5

51. The method according to claim 50, wherein said existing database is
an information directory.

10

52. The method according to claim 51, wherein said information directory
contains items selected from the list, consisting of:

a telephone string;
a facsimile string;
an identification string;
a social security string;
a residence address string;
a mailing address string;
a security key; and
name strings of an entity.

15

20 53. The method according to claim 50, wherein said communication
related information items is selected from a list, consisting of:

an electronic mail string;
a unified resource locator; and
a security key.

25

54. The method according to claim 50, wherein each said record includes
a plurality of information database items, each said information
database items being selected from a list, consisting of:

a telephone string;
a facsimile string;

30

- an identification string;
a social security string;
a residence address string;
a mailing address string;
5 name strings of an entity;
an electronic mail string;
a unified resource locator; and
a security key.
- 10 55. Method for expanding an existing information database, the existing information database including a plurality of records, the method comprising the steps of:
receiving a request to access a selected one of said records;
receiving communication related information items, associated
15 with said selected record; and
storing said communication related information items in association with said record.
- 20 56. Email address comprising indicative information for the account field of a recipient, and an identification of an association server, for the domain field of said recipient.
- 25 57. The Email address according to claim 56, wherein said indicative information is selected from the list consisting of:
a telephone string;
an identification string;
a social security string;
a residence address string;
a mailing address string; and
30 a name of an entity.

58. The Email address according to claim 56, wherein said indicative information includes a combination of at least one area code symbol and a telephone number.
- 5
59. A method according to any of the claims 1-27 substantially as described herein above.
60. A method according to any of the claims 1-27 substantially as
10 illustrated in any of the drawings.
61. A system according to any of the claims 28-49 substantially as described herein above.
- 15 62. A system according to any of the claims 28-49 substantially as illustrated in any of the drawings.
63. A method according to any of the claims 50-54 substantially as described herein above.
- 20 64. A method according to any of the claims 50-54 substantially as illustrated in any of the drawings.
65. A method according to claim 55 substantially as described herein
25 above.
66. A method according to claim 55 substantially as illustrated in any of the drawings.

67. An Email address according to any of the claims 56-58 substantially as described herein above.

5 68. An Email address according to any of the claims 56-58 substantially as illustrated in any of the drawings.

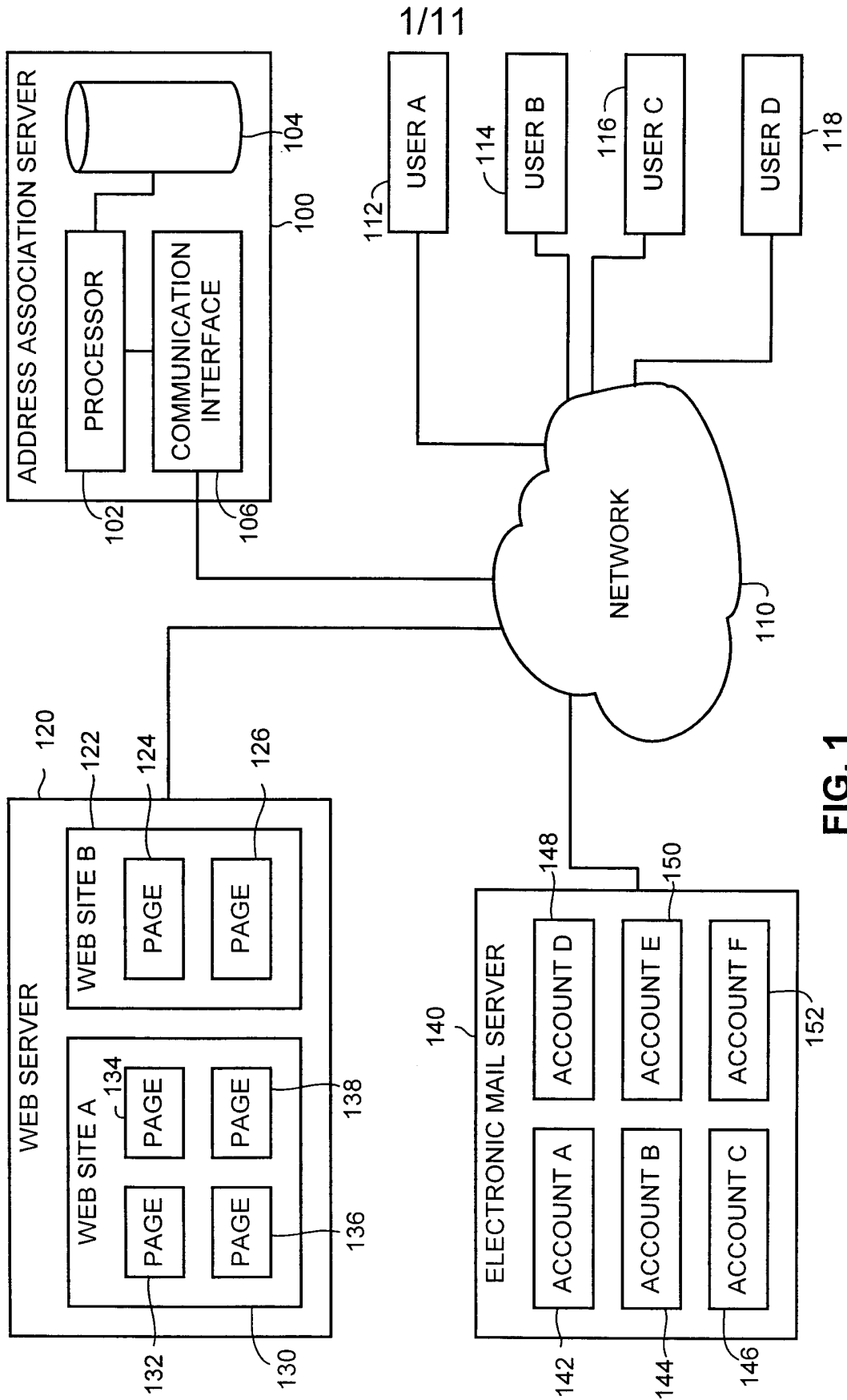


FIG. 1

TELEPHONE	NAME	E-MAIL	URL
1-212-7654321	JOHN SMITH JR.	JOHN_SMITH@E_MAIL.COM	HTTP://WWW.WEBPAGE.COM/PAGE_OF_JOHN_SMITH
44-321-7654321	CHARLIE BRAUN	C_BRAUN@KIDMAIL.COM	HTTP://WWW.WEBSITE.COM/SNOOPY
1-716-5522553	ERIC CARTMAN	BIG_BONES@S_PARK.COM	HTTP://WWW.SOUTH_PARK.COM
		•••••	
55-555-5555555	BURT SIMPSON	BS@BRAT.COM	HTTP://WWW.I_DIDNT_DO_IT.COM

FIG. 2

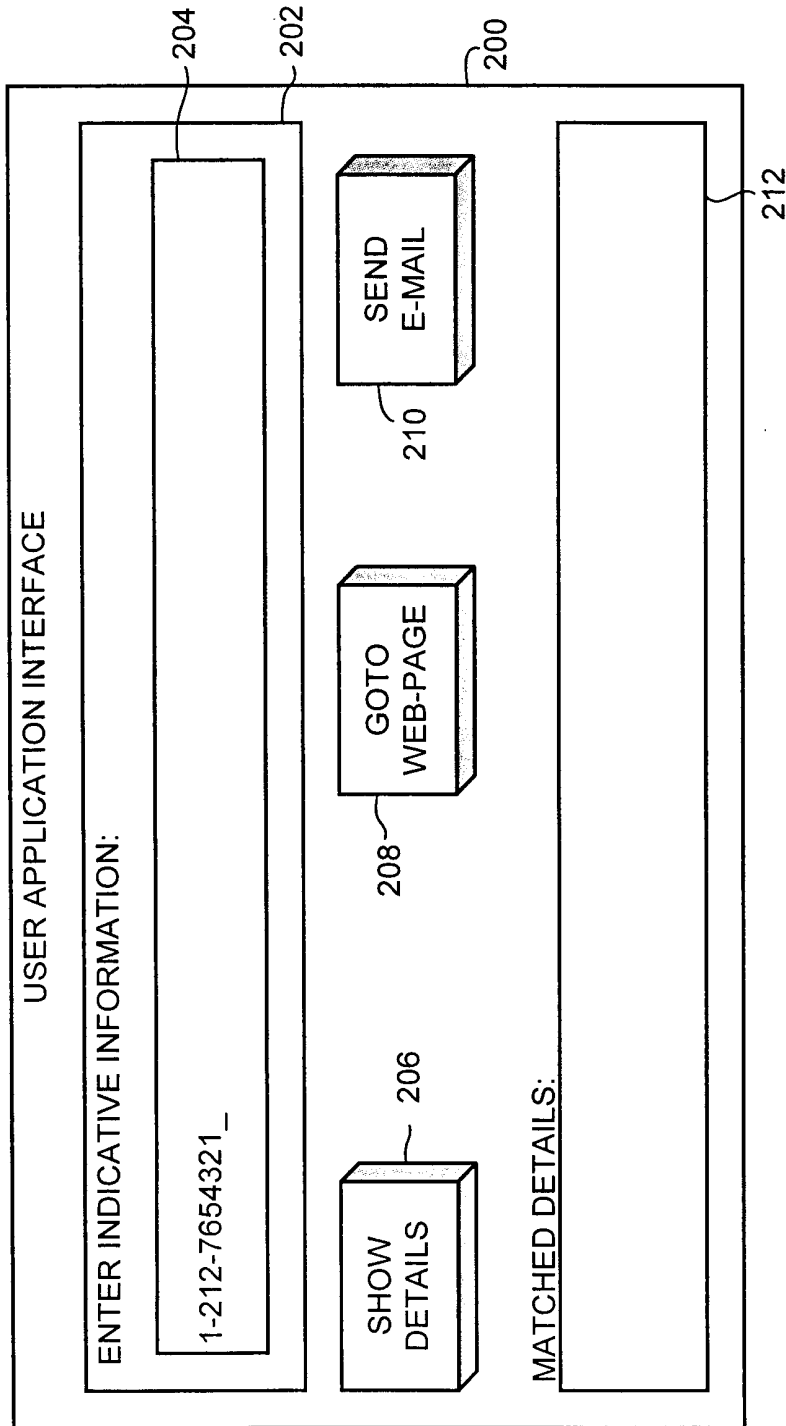


FIG. 3A

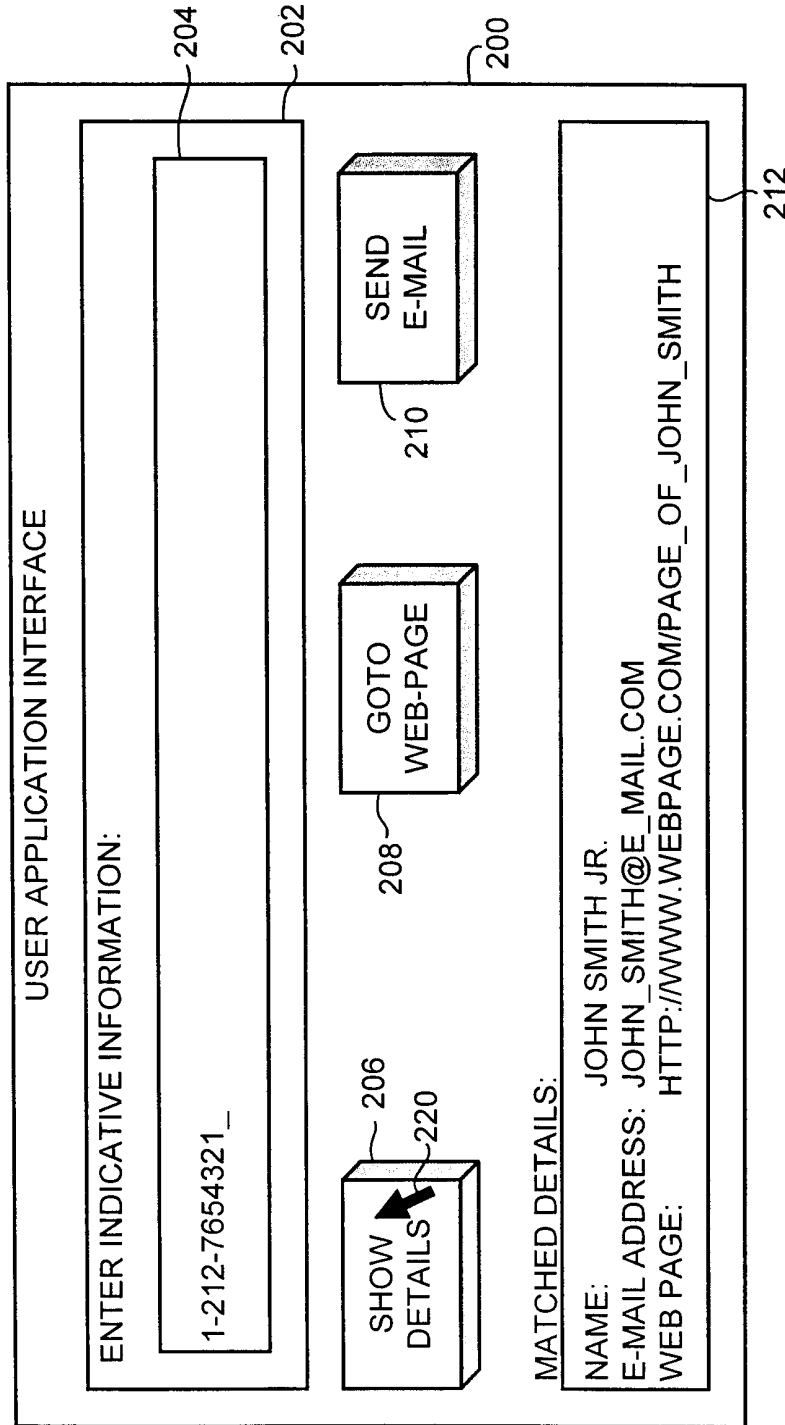


FIG. 3B

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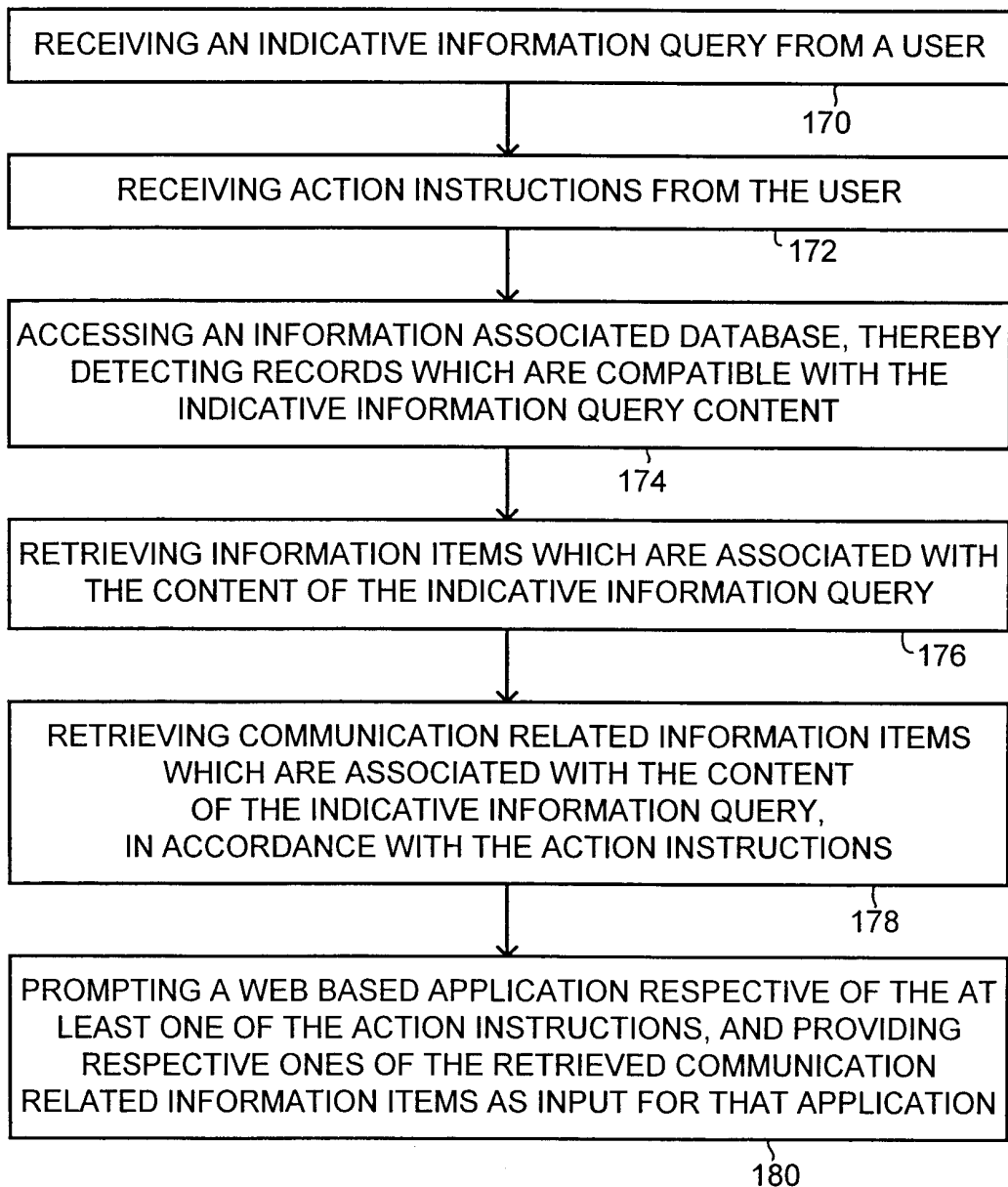


FIG. 4

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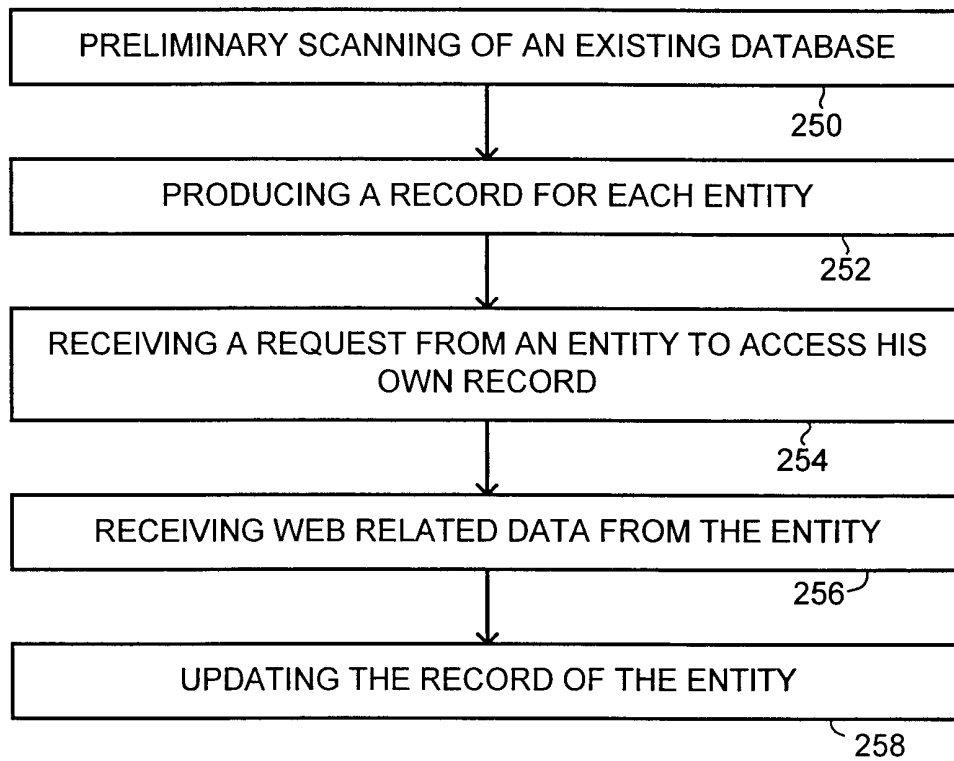


FIG. 5

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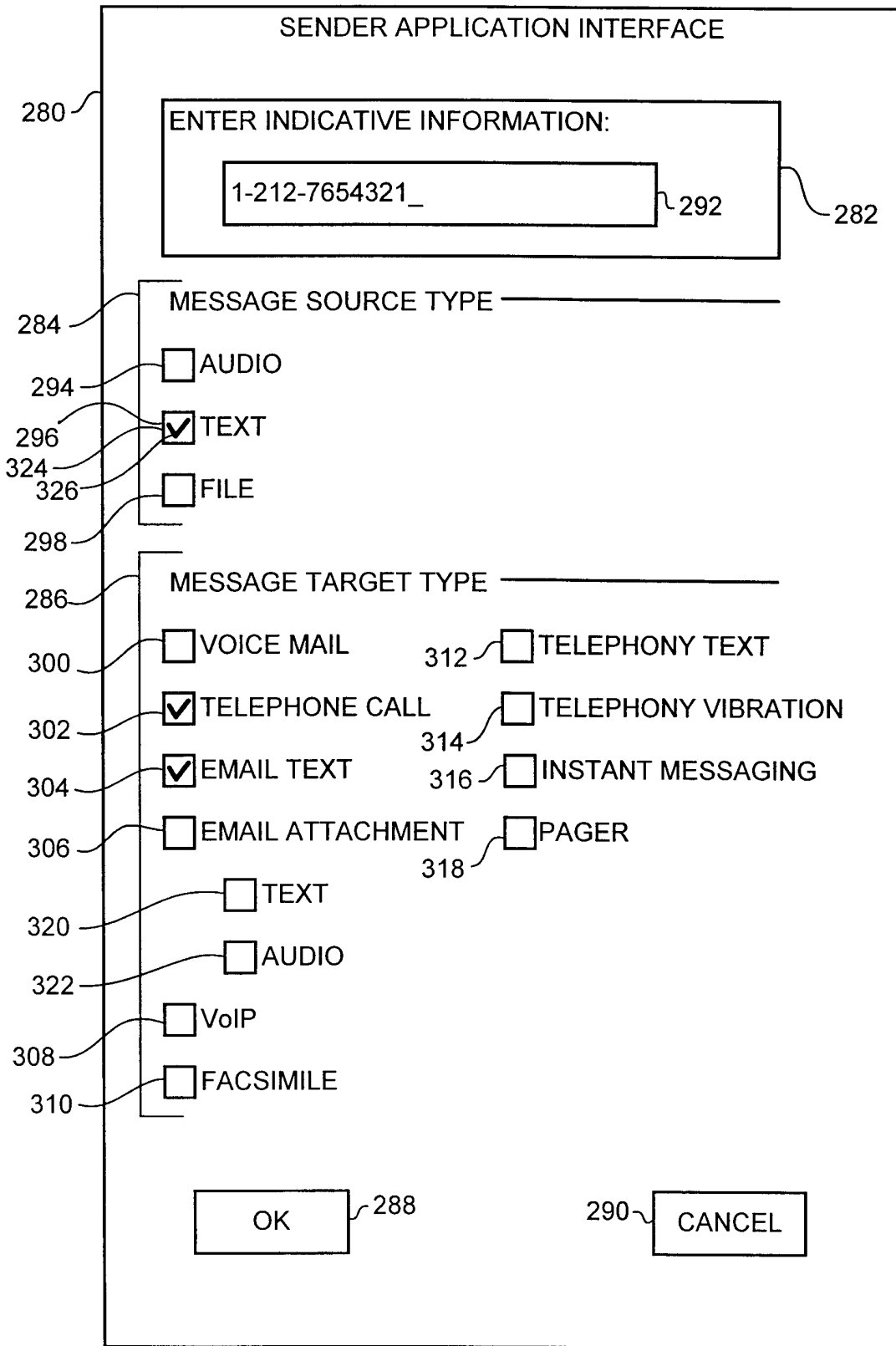


FIG. 6

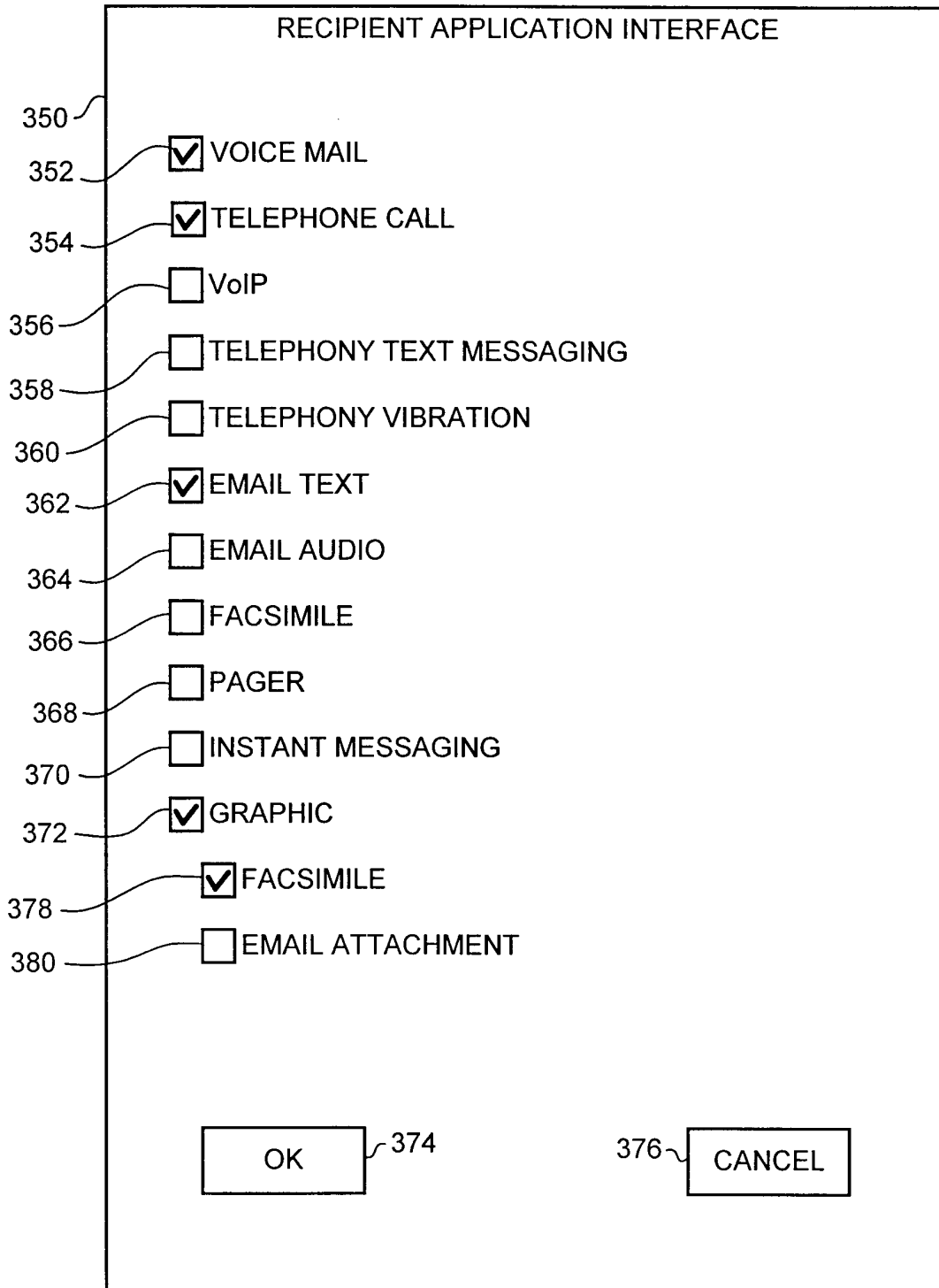


FIG. 7

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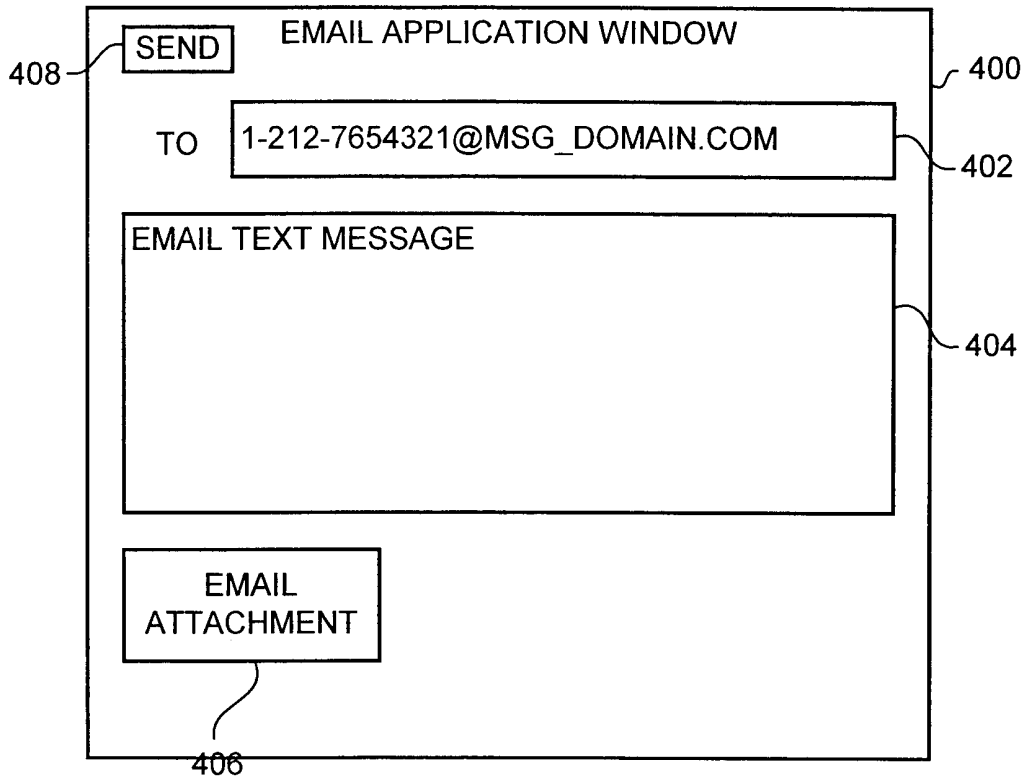


FIG. 8

10/11

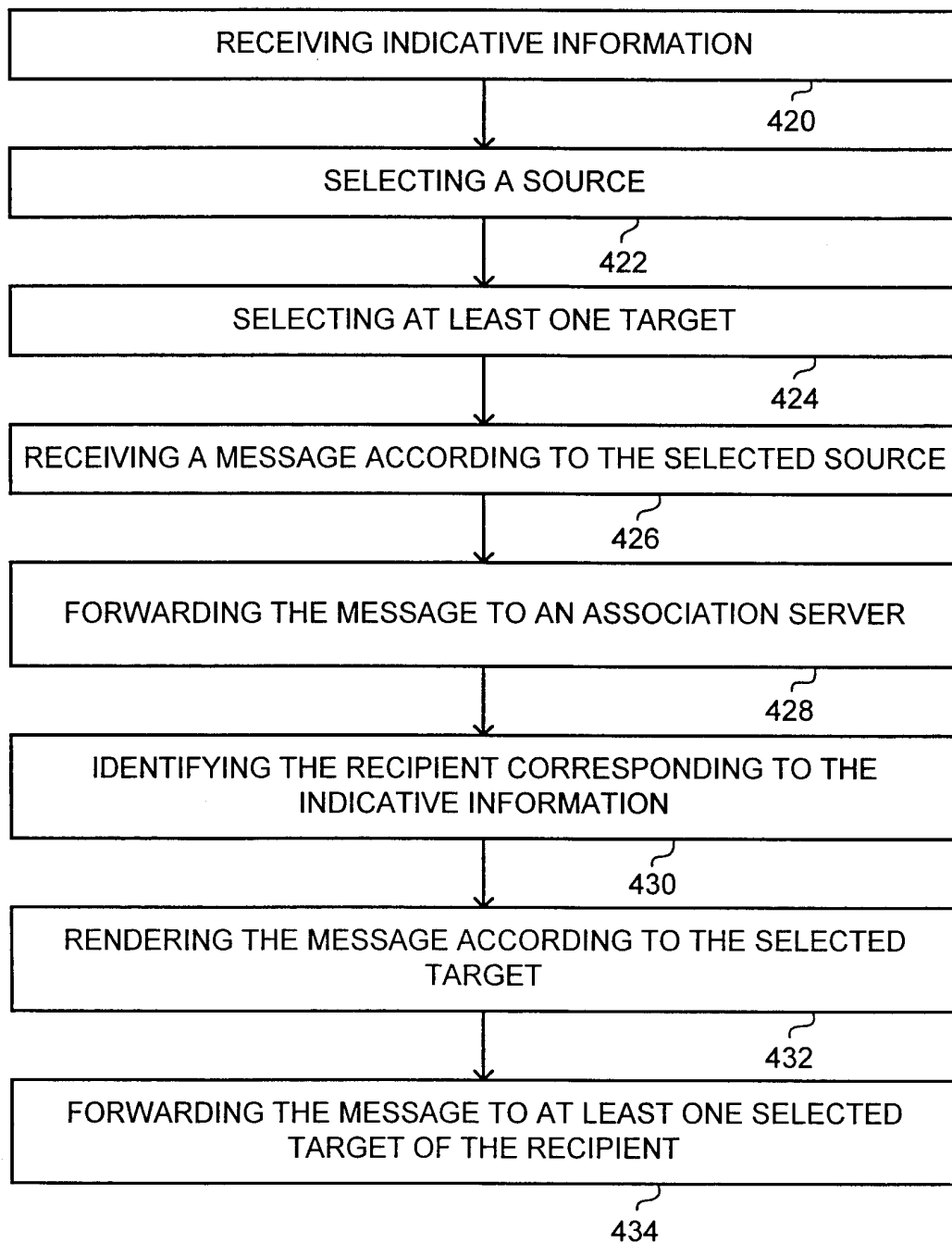


FIG. 9

11/11

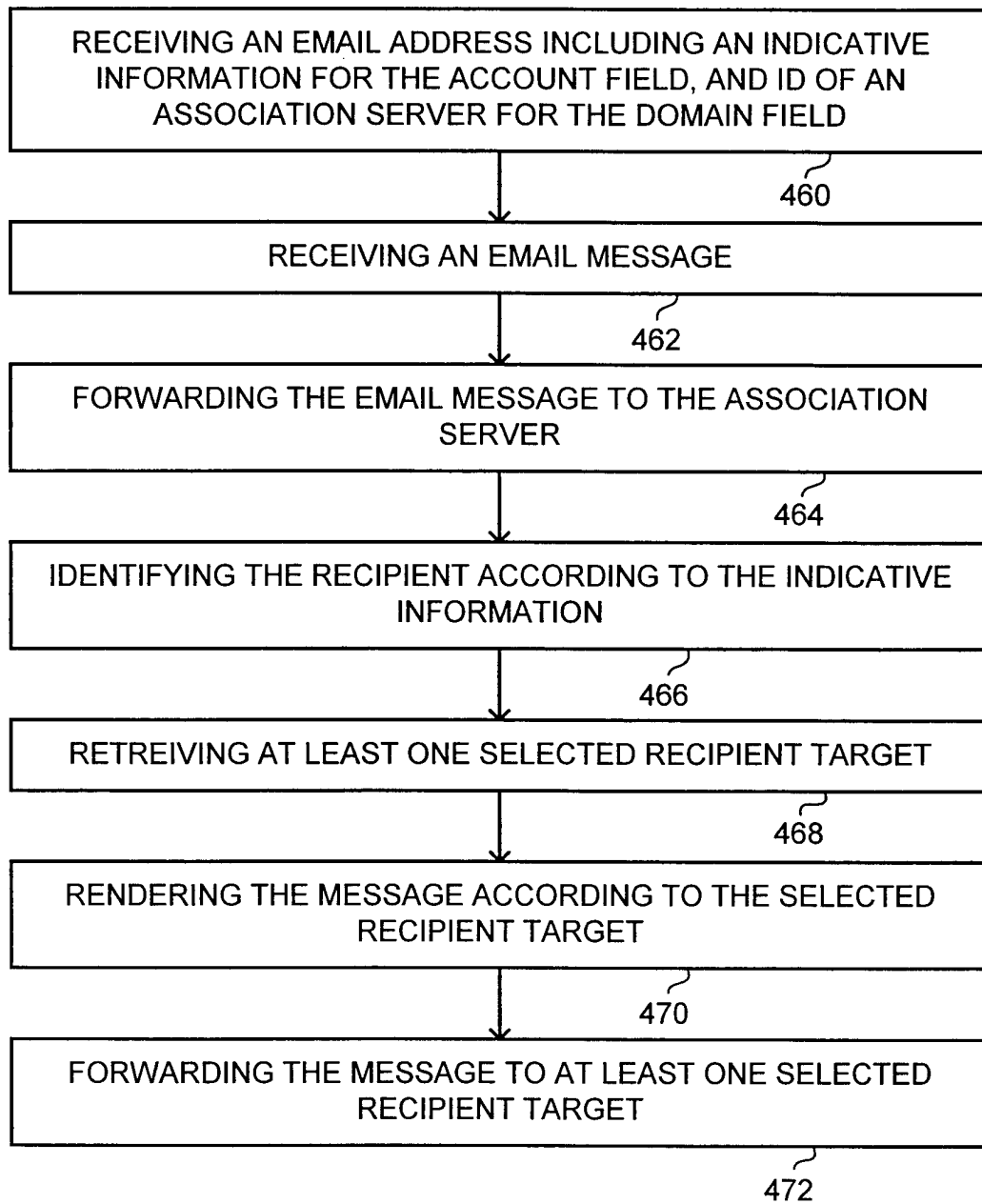


FIG. 10