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(54) **ELECTRONIC COUPON DISTRIBUTION SYSTEM**

(76) Inventor: **Steven R. Boal**, Los Altos, CA (US)

Correspondence Address:
RADER, FISHMAN & GRAUER PLLC
Ronald P. Kananen
Suite 501
1233 20th Street, N.W.
Washington, DC 20036 (US)

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Publication Classification

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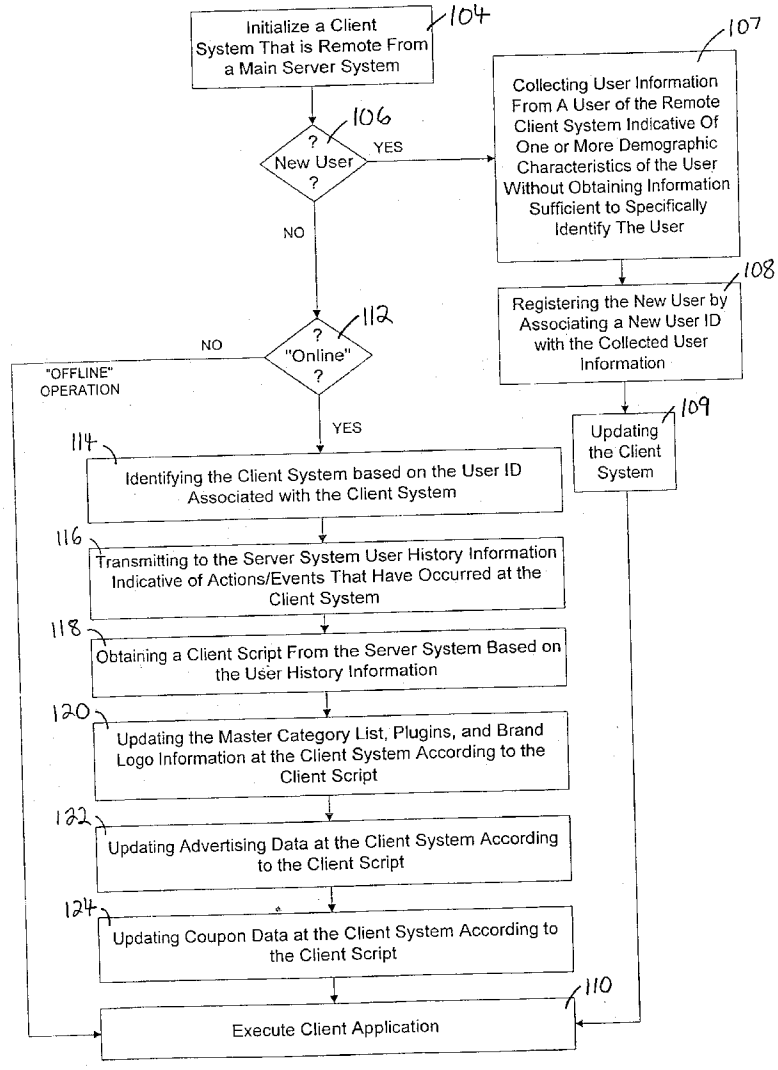
(52) **U.S. Cl.** **705/14**

(57) **ABSTRACT**

A method of secure electronic couponing is disclosed which includes a main server system, and a client system interconnected by a distributed computer network, such as the Internet. Coupon data and advertising data are encrypted to thereby reduce the likelihood that such data may be misused, such as by unauthorized duplication. In addition, the client system is identified by a user identification that is allocated and associated with user information collected from the user of the client system. The user information is indicative of one or more demographic characteristics of the user without being sufficiently personal to specifically identify the user, thus preserving privacy. An icon is provided which, when flashing, alerts the user to the fact that new coupons are available.



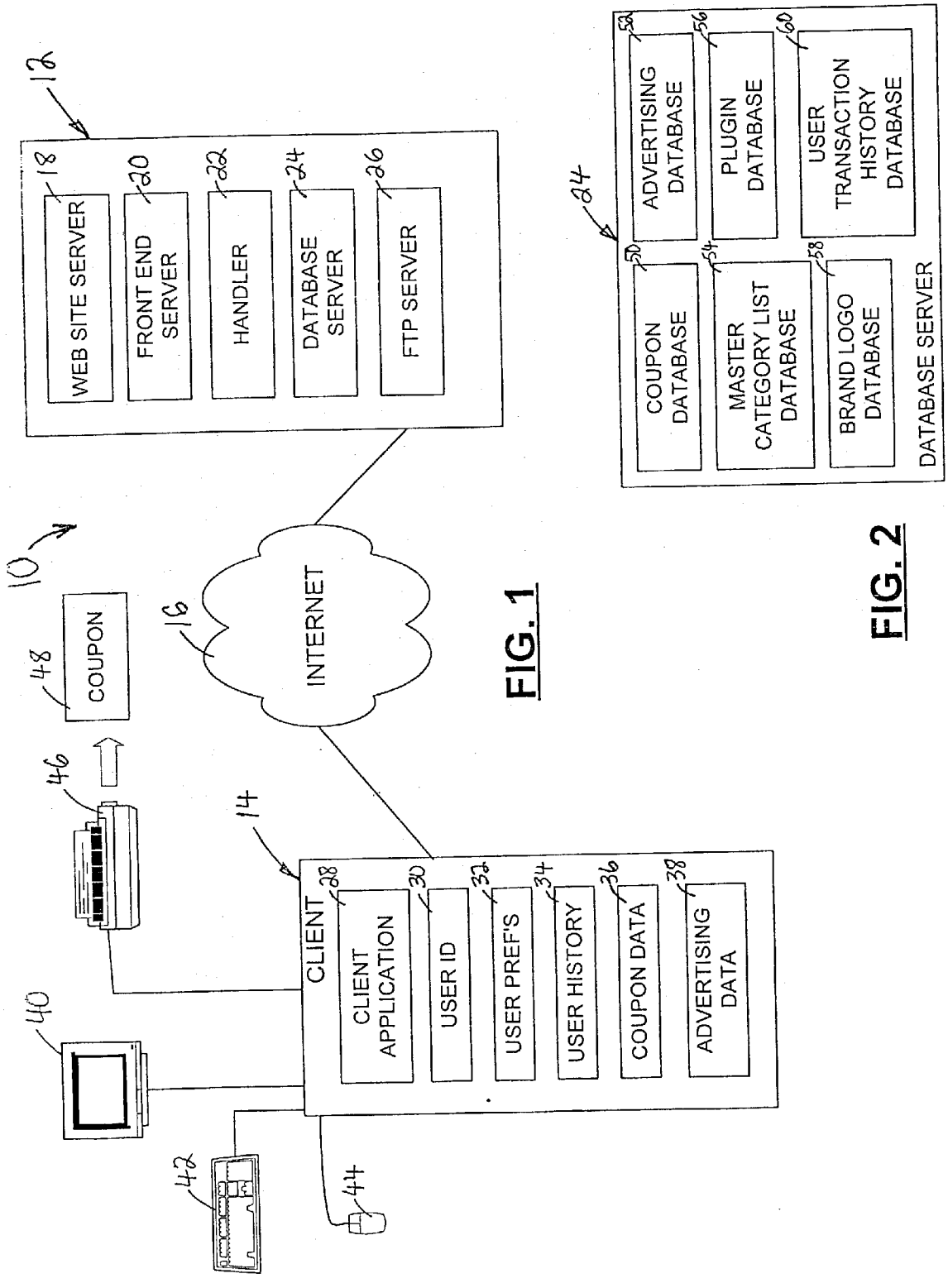

10
12
WEB SITE SERVER
18
FRONT END SERVER
20
HANDLER
22
DATABASE SERVER
24
FTP SERVER
26
INTERNET
16
COUPON
48
46
40
42
44
14
CLIENT
CLIENT APPLICATION
28
USER ID
30
USER PREF'S
32
USER HISTORY
34
COUPON DATA
36
ADVERTISING DATA
38
34
ADVERTISING DATABASE
52
PLUGIN DATABASE
56
USER TRANSACTION HISTORY DATABASE
60
COUPON DATABASE
50
MASTER CATEGORY LIST DATABASE
54
BRAND LOGO DATABASE
58
DATABASE SERVER

FIG. 1

FIG. 2

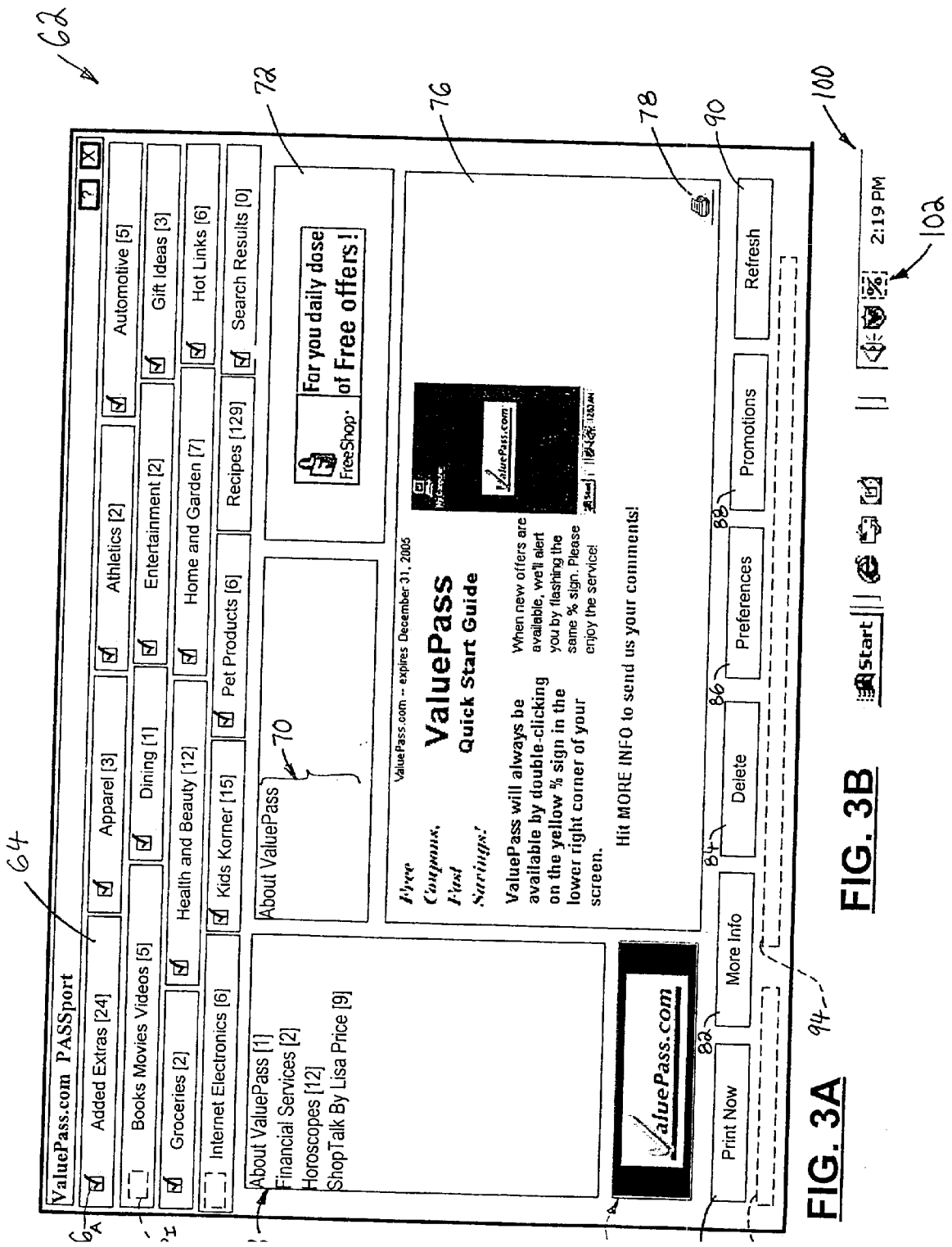

62
64
72
76
78
90
100
102
ValuePass.com PASSport
Added Extras [24]
Apparel [3]
Athletics [2]
Automotive [5]
Books Movies Videos [5]
Dining [1]
Entertainment [2]
Gift Ideas [3]
Groceries [2]
Health and Beauty [12]
Home and Garden [7]
Hot Links [6]
Internet Electronics [6]
Kids Korner [15]
Pet Products [6]
Recipes [129]
Search Results [0]
About ValuePass [1]
Financial Services [2]
Horoscopes [12]
ShopTalk By Lisa Price [9]
About ValuePass
70
For you daily dose of Free offers!
FreeShop
ValuePass.com -- expires December 31, 2006
ValuePass
Quick Start Guide
When new offers are available, we'll alert you by flashing the same % sign. Please enjoy the service!
ValuePass will always be available by double-clicking on the yellow % sign in the lower right corner of your screen.
Hit MORE INFO to send us your comments!
ValuePass.com
Print Now
More Info
Delete
Preferences
Promotions
Refresh
82
84
86
88
94
start
2:19 PM

FIG. 3A

FIG. 3B

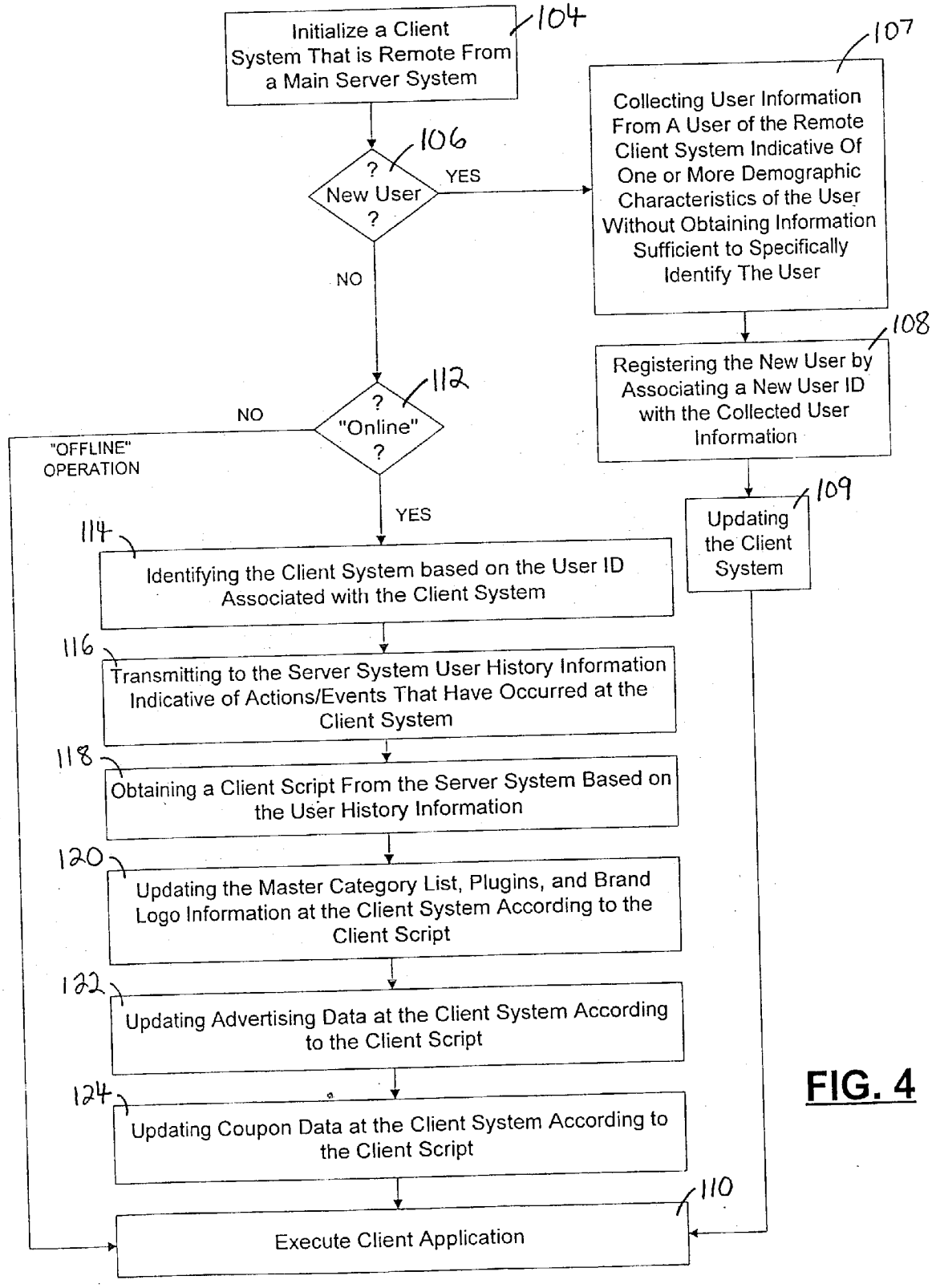

Initialize a Client System That is Remote From a Main Server System
104
? New User ?
106
YES
NO
Collecting User Information From A User of the Remote Client System Indicative Of One or More Demographic Characteristics of the User Without Obtaining Information Sufficient to Specifically Identify The User
107
Registering the New User by Associating a New User ID with the Collected User Information
108
Updating the Client System
109
? "Online" ?
112
NO
"OFFLINE" OPERATION
YES
Identifying the Client System based on the User ID Associated with the Client System
114
Transmitting to the Server System User History Information Indicative of Actions/Events That Have Occurred at the Client System
116
Obtaining a Client Script From the Server System Based on the User History Information
118
Updating the Master Category List, Plugins, and Brand Logo Information at the Client System According to the Client Script
120
Updating Advertising Data at the Client System According to the Client Script
122
Updating Coupon Data at the Client System According to the Client Script
124
Execute Client Application
110

FIG. 4

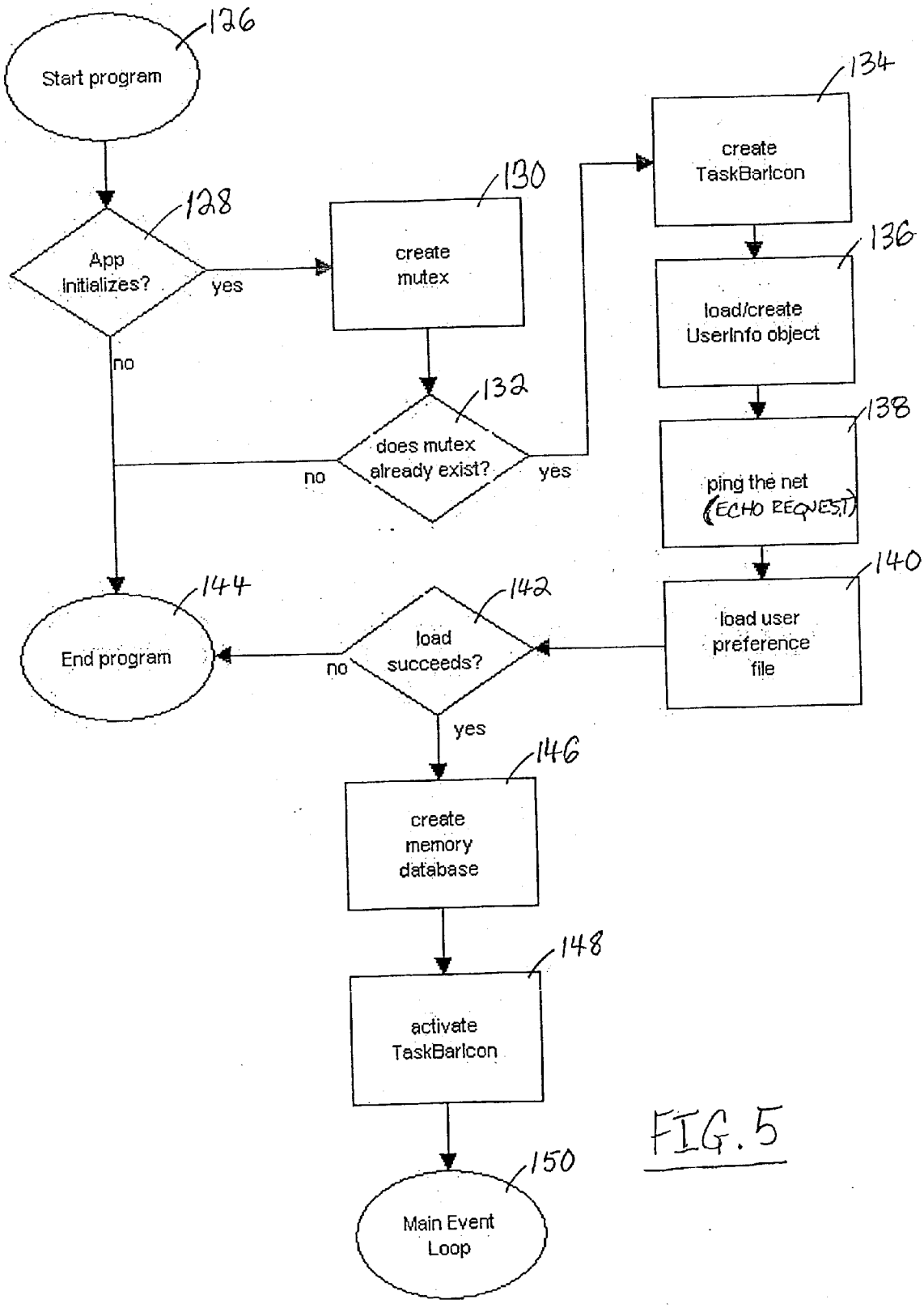

126
Start program
128
App Initializes?
yes
no
130
create mutex
132
does mutex already exist?
no
yes
134
create TaskBarIcon
136
load/create UserInfo object
138
ping the net (ECHO REQUEST)
140
load user preference file
142
load succeeds?
no
yes
144
End program
146
create memory database
148
activate TaskBarIcon
150
Main Event Loop

FIG. 5

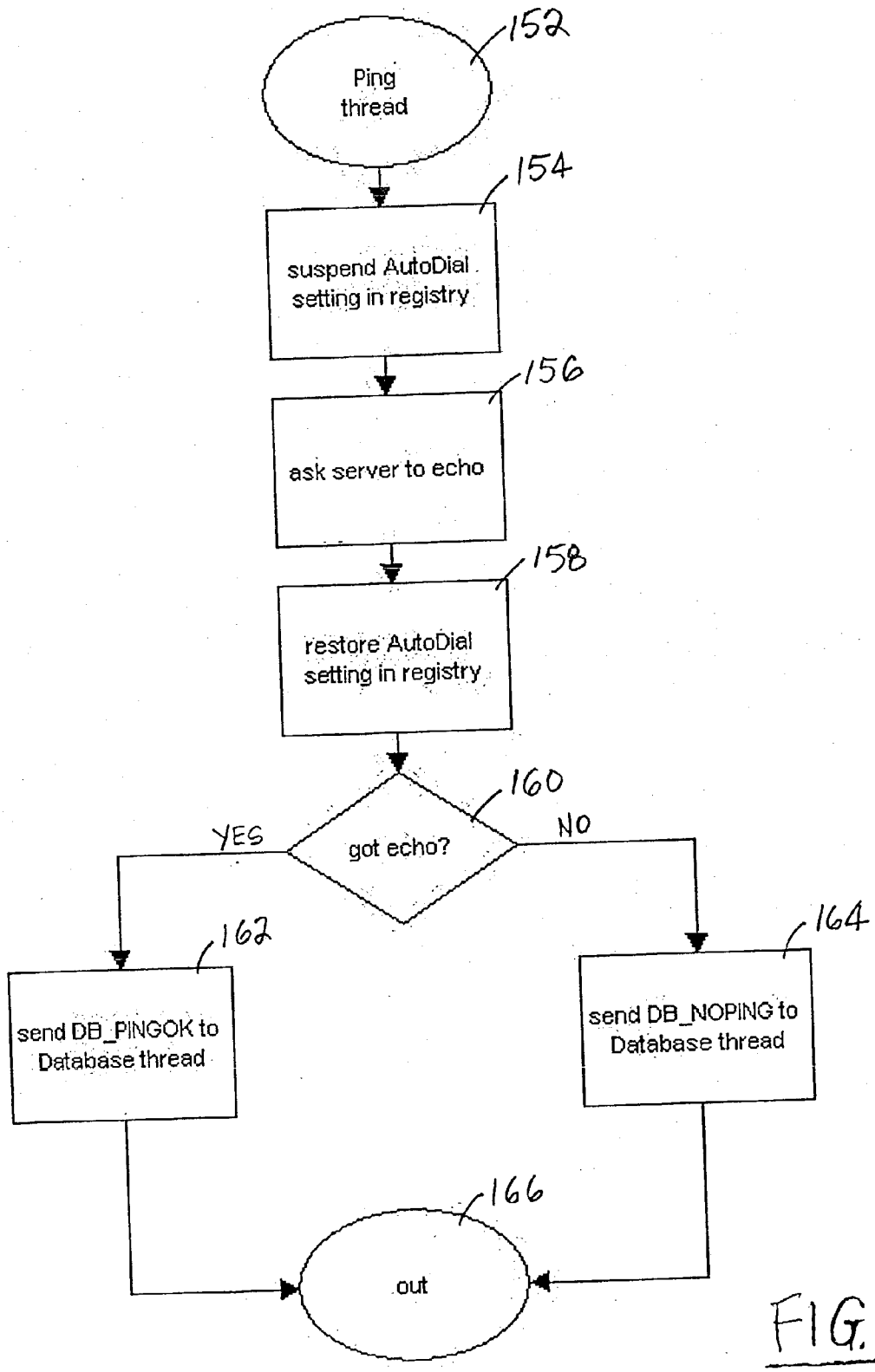

152
Ping thread
154
suspend AutoDial setting in registry
156
ask server to echo
158
restore AutoDial setting in registry
160
got echo?
YES
NO
162
send DB_PINGOK to Database thread
164
send DB_NOPING to Database thread
166
out

FIG. 6

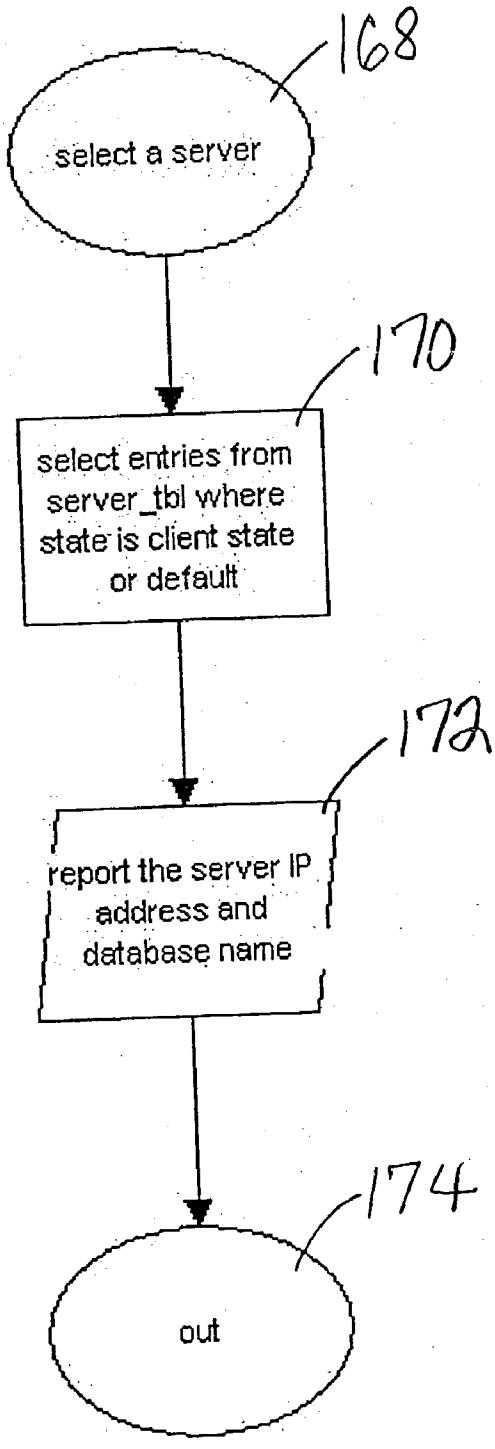

168
select a server
170
select entries from server_tbl where state is client state or default
172
report the server IP address and database name
174
out

FIG. 7

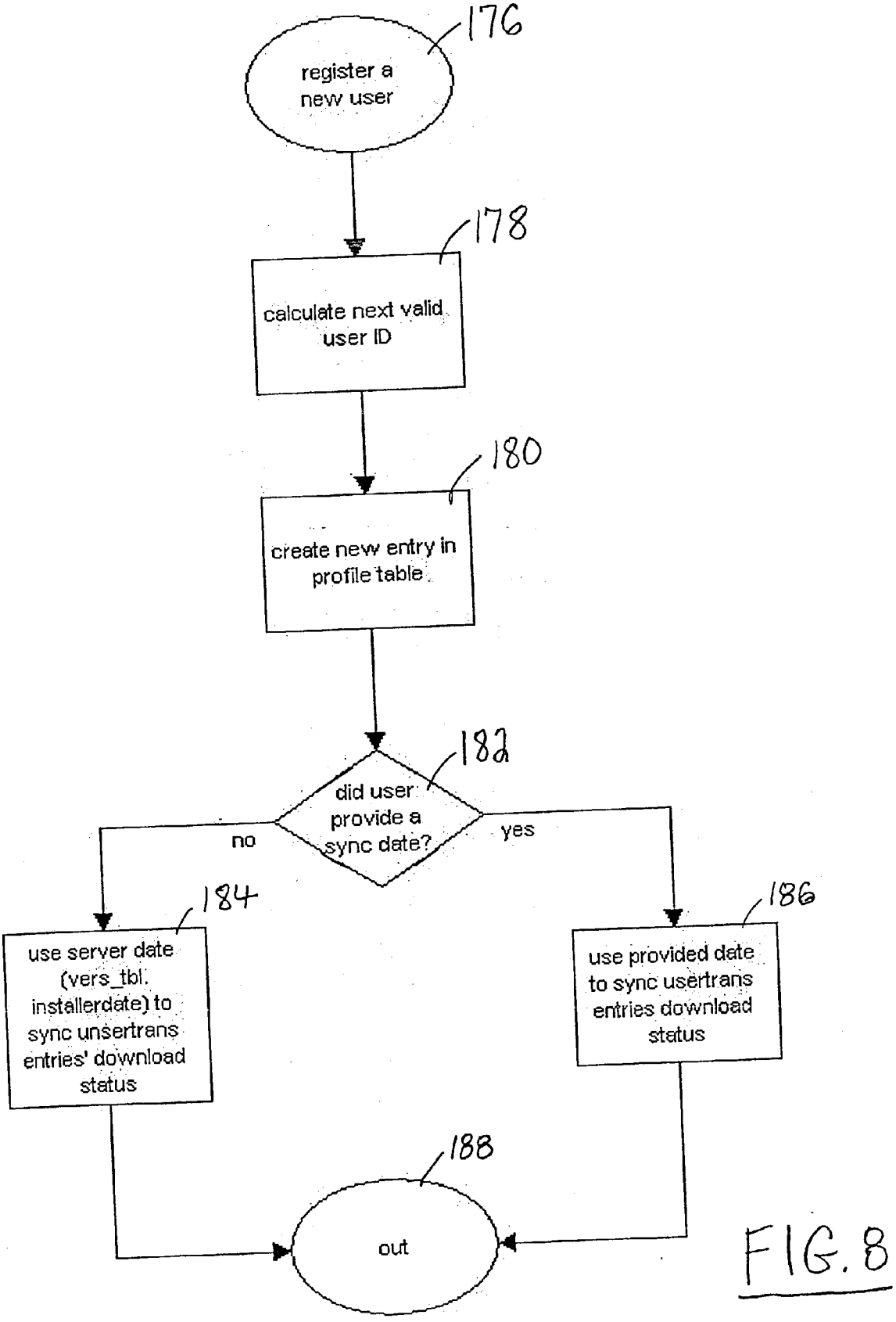

176
register a new user
178
calculate next valid user ID
180
create new entry in profile table
182
did user provide a sync date?
no
yes
184
use server date (vers_tbl. installerdate) to sync unsertrans entries' download status
186
use provided date to sync usertrans entries download status
188
out

FIG. 8

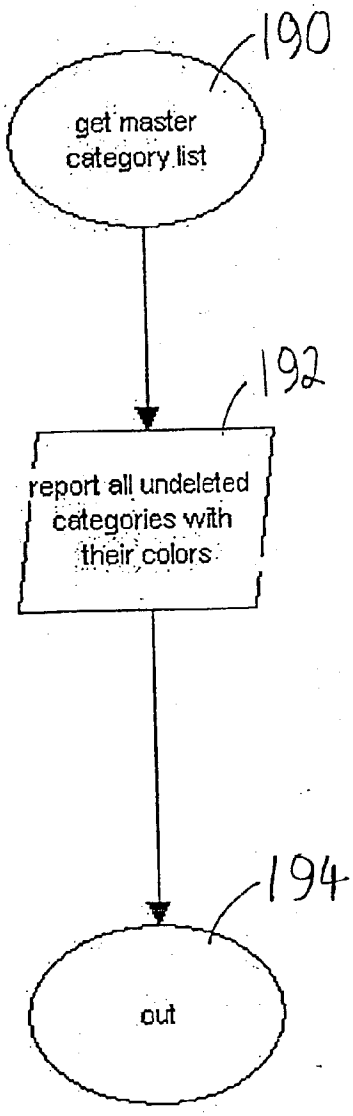

190
get master category list
192
report all undeleted categories with their colors
194
out

FIG. 9

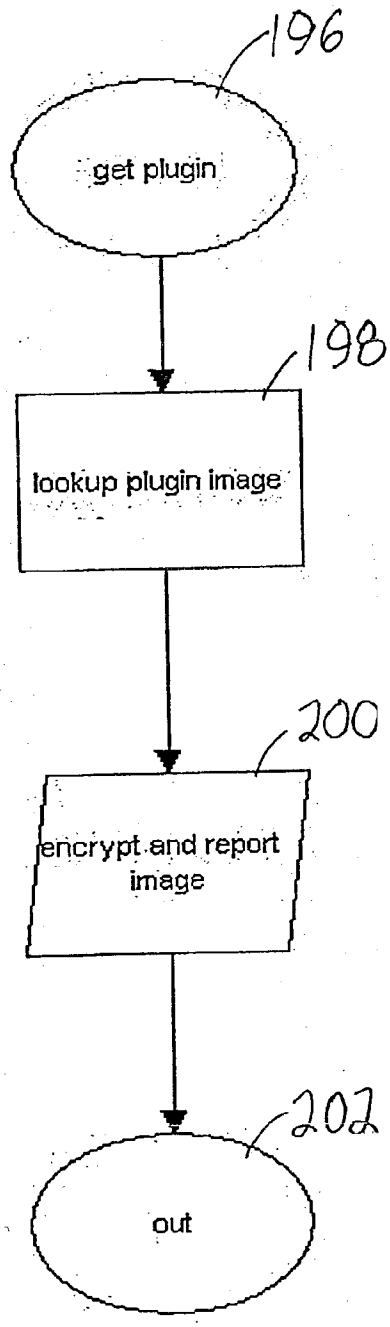

196
get plugin
198
lookup plugin image
200
encrypt and report image
202
out

FIG. 10

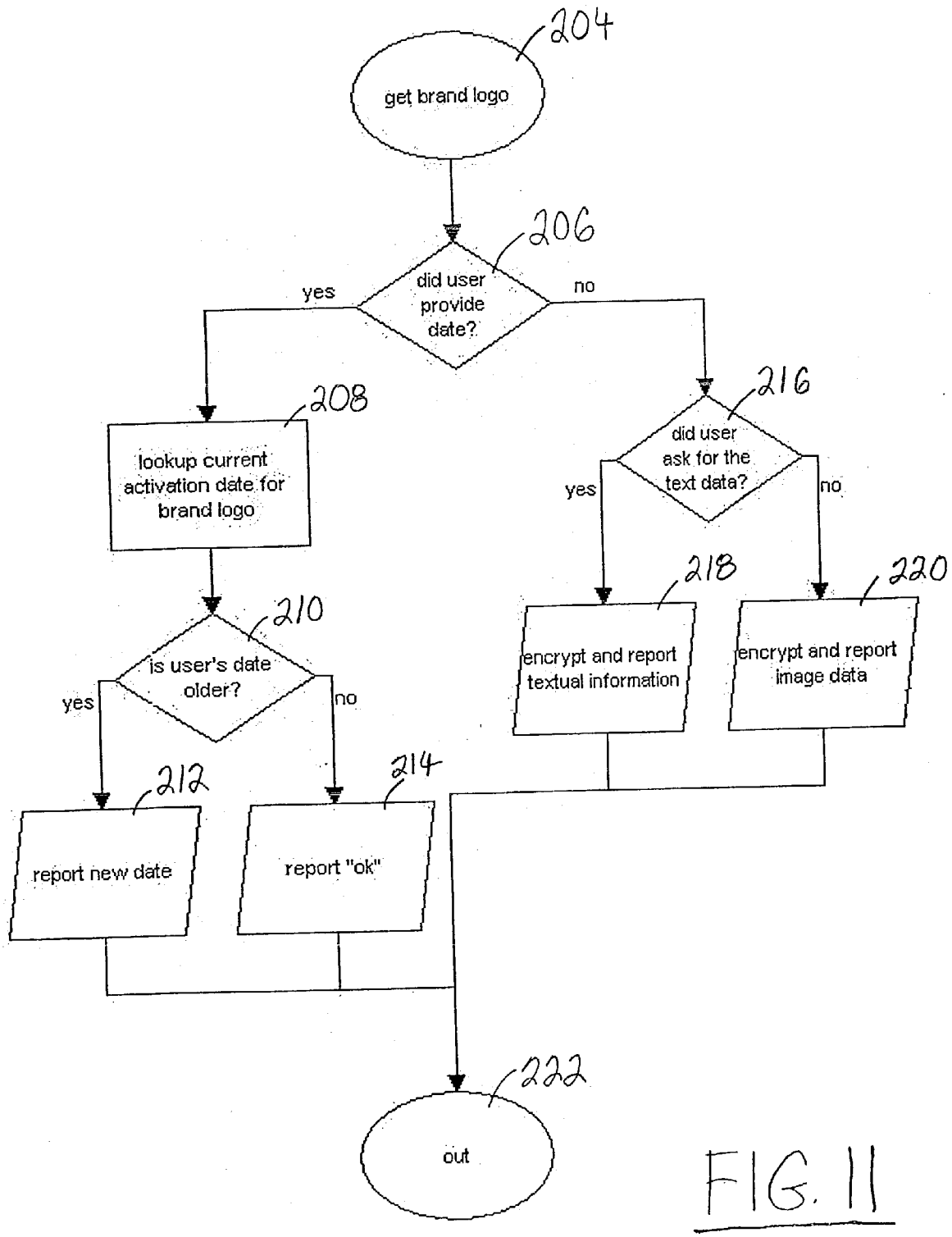

204
get brand logo
206
did user provide date?
yes
no
208
lookup current activation date for brand logo
210
is user's date older?
yes
no
212
report new date
214
report "ok"
216
did user ask for the text data?
yes
no
218
encrypt and report textual information
220
encrypt and report image data
222
out

FIG. 11

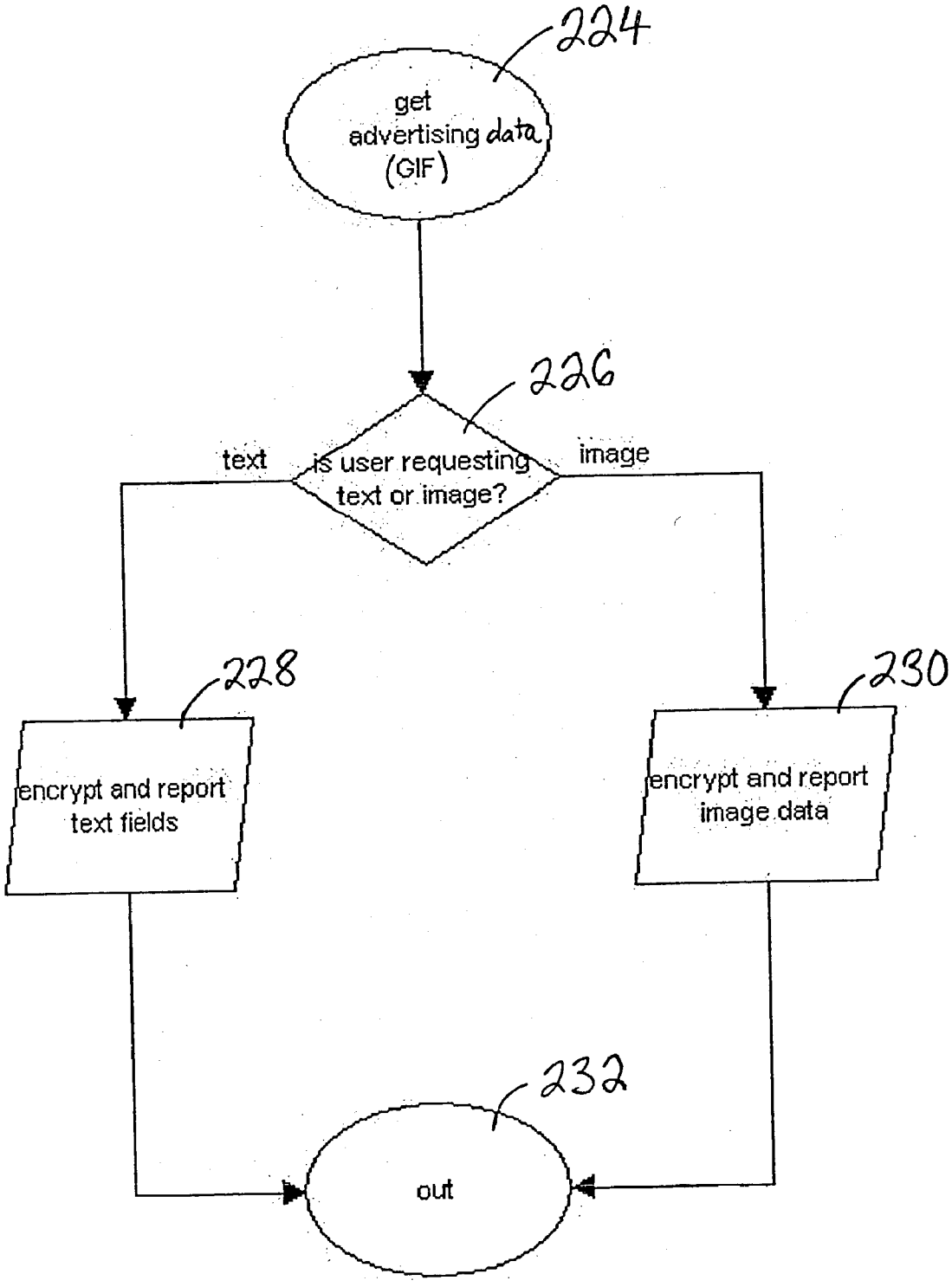

224
get advertising data (GIF)
226
is user requesting text or image?
text
image
228
encrypt and report text fields
230
encrypt and report image data
232
out

FIG. 12

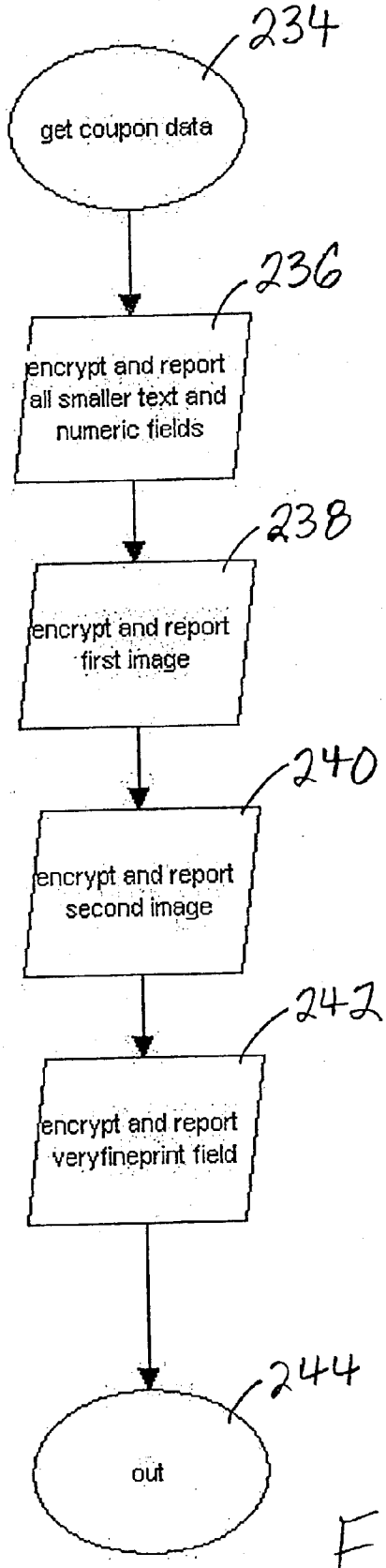

234
get coupon data
236
encrypt and report all smaller text and numeric fields
238
encrypt and report first image
240
encrypt and report second image
242
encrypt and report veryfineprint field
244
out

FIG. 13

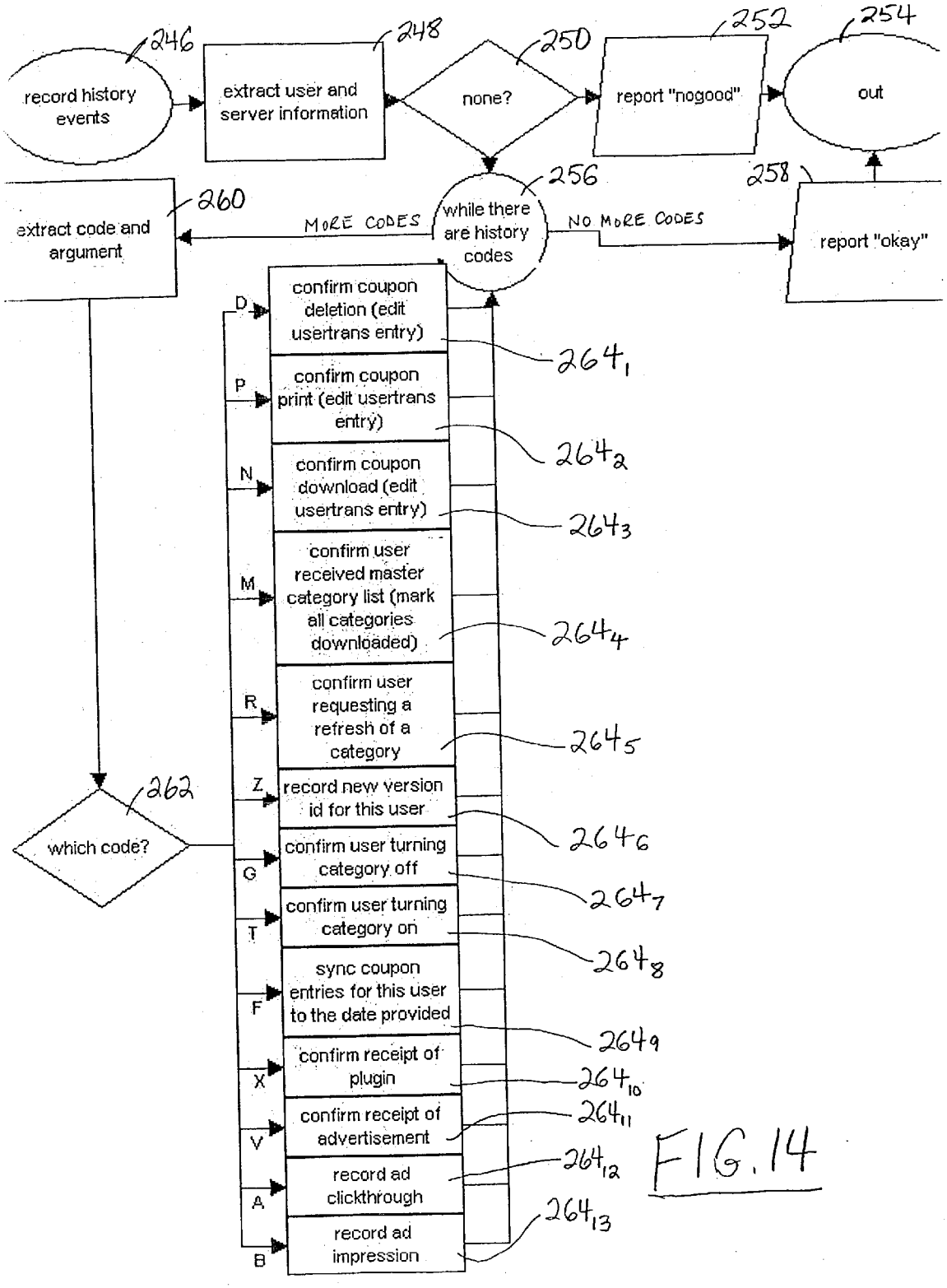

246
record history events
248
extract user and server information
250
none?
252
report "nogood"
254
out
256
while there are history codes
MORE CODES
NO MORE CODES
258
report "okay"
260
extract code and argument
262
which code?
D
confirm coupon deletion (edit usertrans entry)
264 1
P
confirm coupon print (edit usertrans entry)
264 2
N
confirm coupon download (edit usertrans entry)
264 3
M
confirm user received master category list (mark all categories downloaded)
264 4
R
confirm user requesting a refresh of a category
264 5
Z
record new version id for this user
264 6
G
confirm user turning category off
264 7
T
confirm user turning category on
264 8
F
sync coupon entries for this user to the date provided
264 9
X
confirm receipt of plugin
264 10
V
confirm receipt of advertisement
264 11
A
record ad clickthrough
264 12
B
record ad impression
264 13

FIG. 14

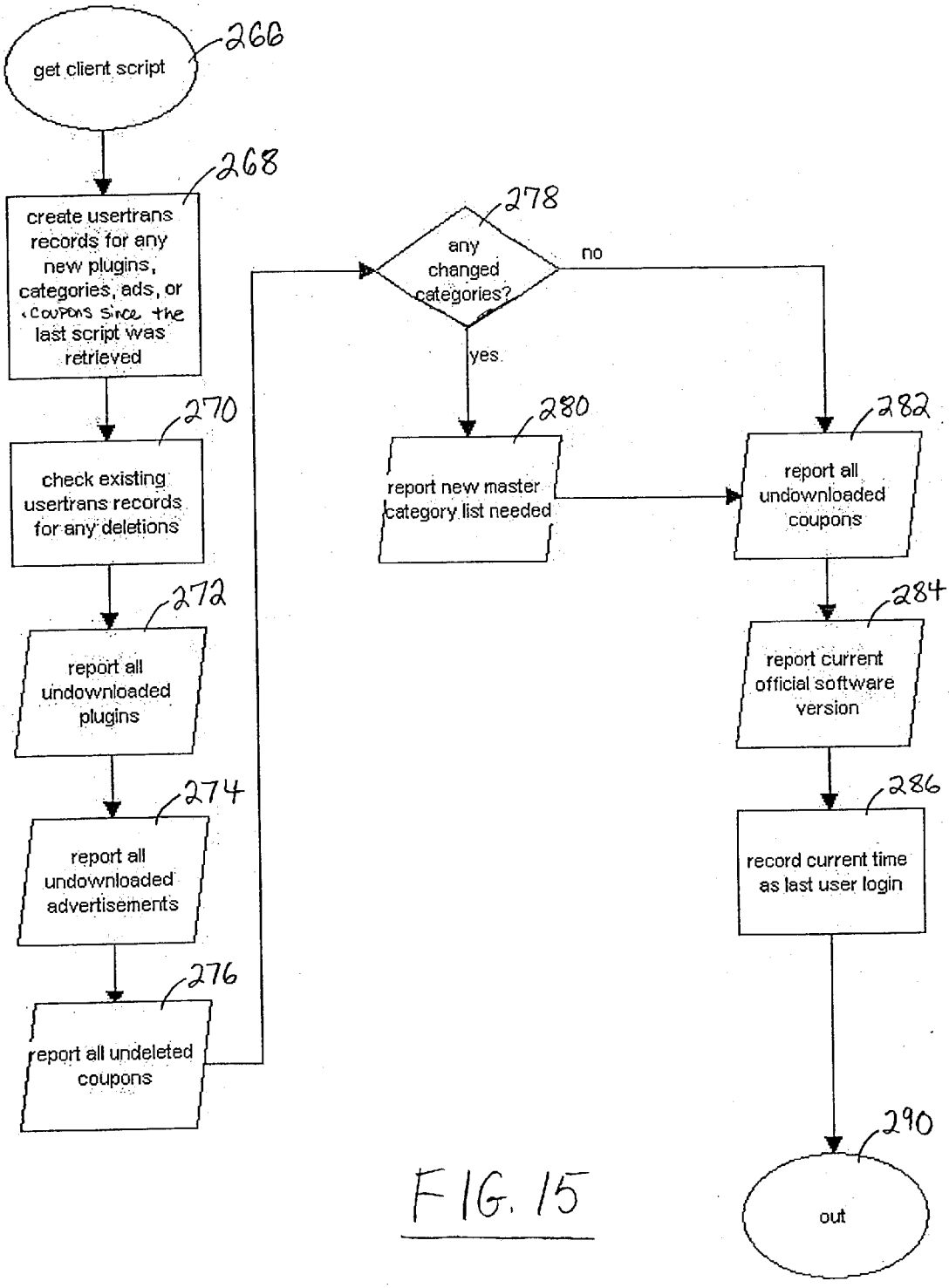

get client script
266
create usertrans records for any new plugins, categories, ads, or coupons since the last script was retrieved
268
check existing usertrans records for any deletions
270
report all undownloaded plugins
272
report all undownloaded advertisements
274
report all undeleted coupons
276
any changed categories?
278
yes
no
report new master category list needed
280
report all undownloaded coupons
282
report current official software version
284
record current time as last user login
286
out
290

FIG. 15

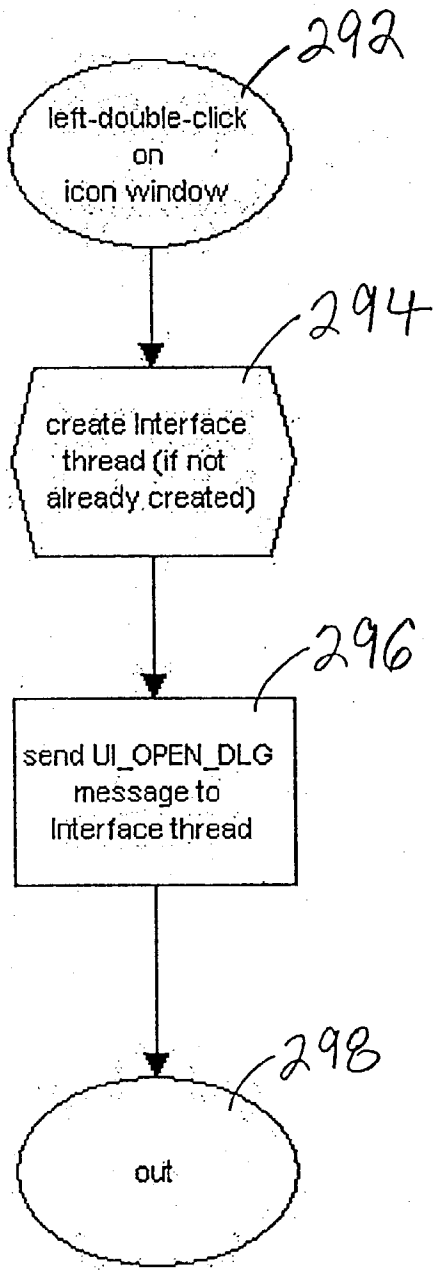

292
left-double-click on icon window
294
create Interface thread (if not already created)
296
send UI_OPEN_DLG message to Interface thread
298
out

FIG. 16

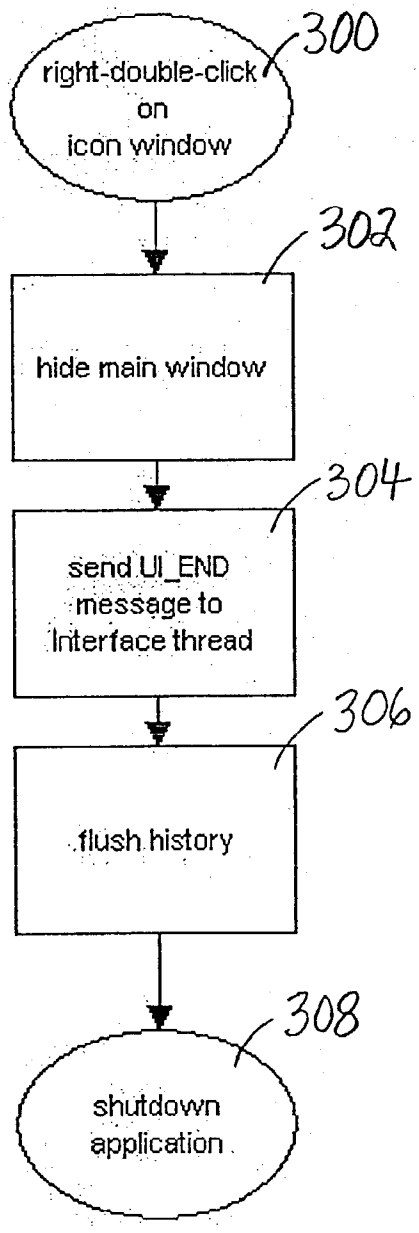

300
right-double-click on icon window
302
hide main window
304
send UI_END message to Interface thread
306
flush history
308
shutdown application

FIG. 17

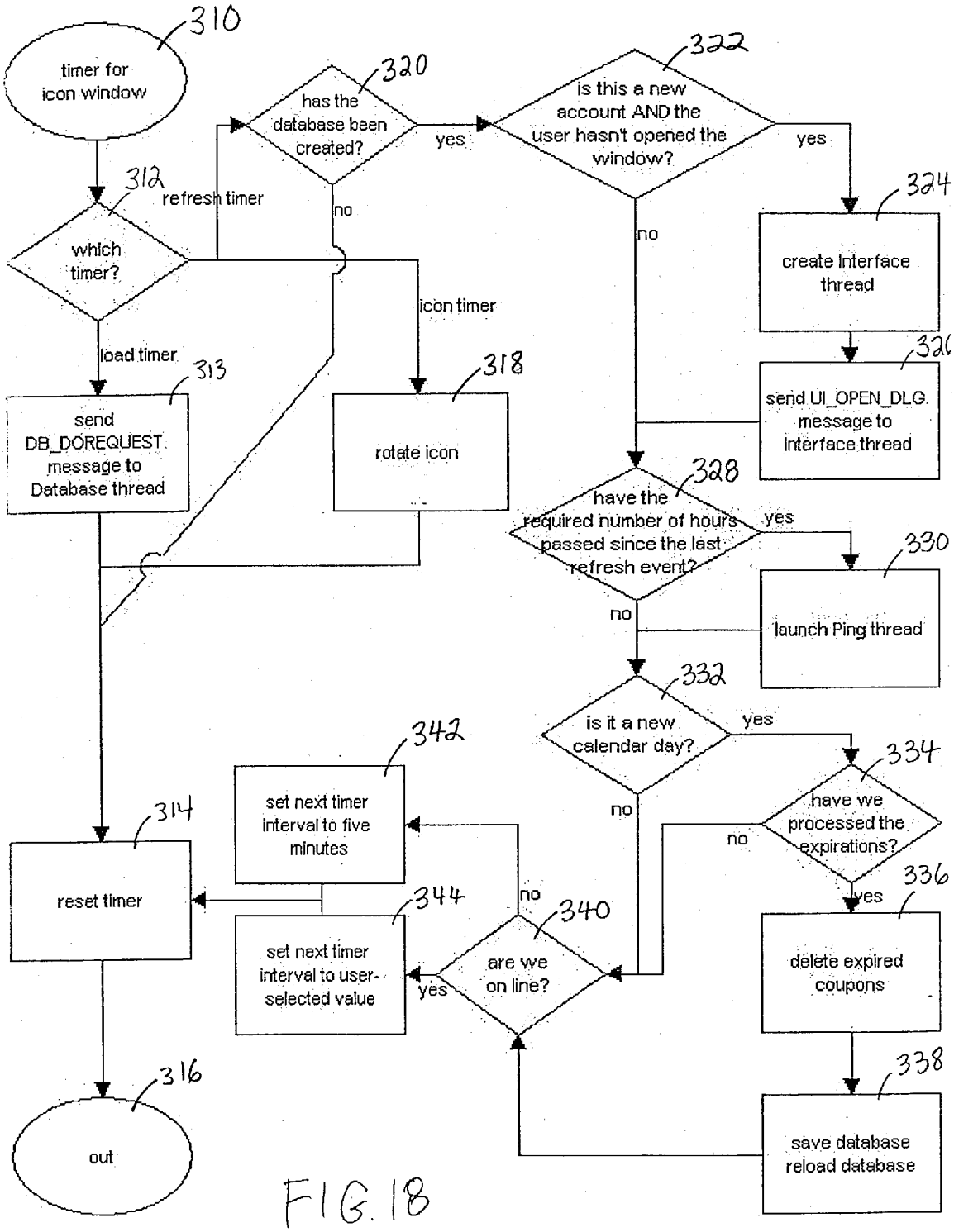

310
timer for icon window
320
has the database been created?
yes
322
is this a new account AND the user hasn't opened the window?
yes
324
create Interface thread
326
send UI_OPEN_DLG message to Interface thread
312
refresh timer
no
which timer?
icon timer
load timer
313
send DB_DOREQUEST message to Database thread
318
rotate icon
328
have the required number of hours passed since the last refresh event?
yes
330
launch Ping thread
no
332
is it a new calendar day?
yes
334
have we processed the expirations?
no
336
delete expired coupons
342
set next timer interval to five minutes
314
reset timer
344
set next timer interval to user-selected value
340
are we on line?
yes
316
out
338
save database reload database

FIG. 18

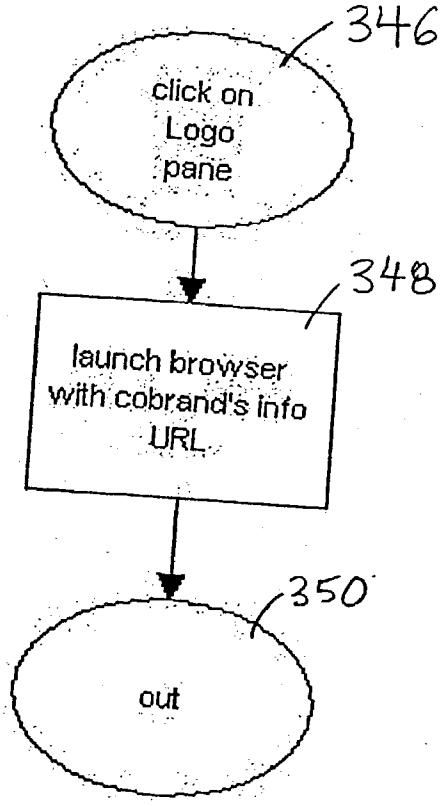

346
click on Logo pane
348
launch browser with cobrand's info URL
350
out

FIG. 19

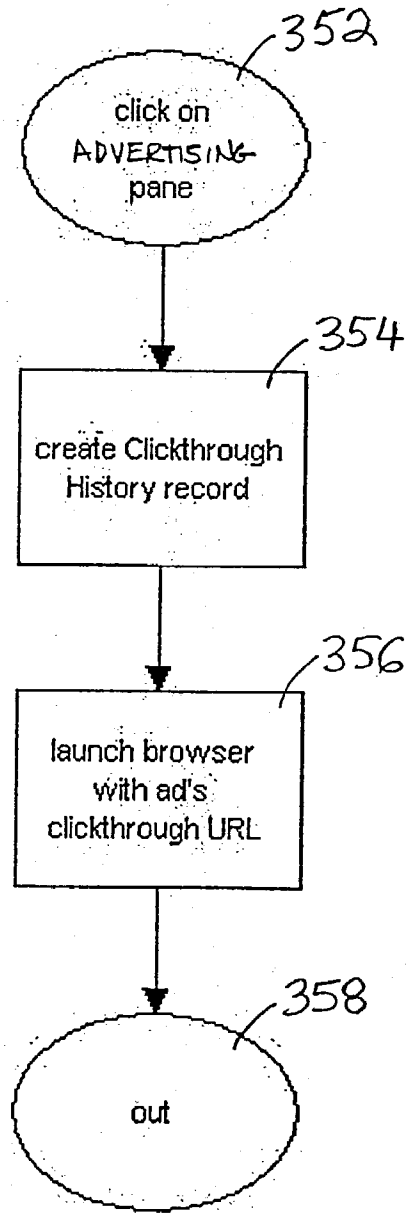

352
click on ADVERTISING pane
354
create Clickthrough History record
356
launch browser with ad's clickthrough URL
358
out

FIG. 20

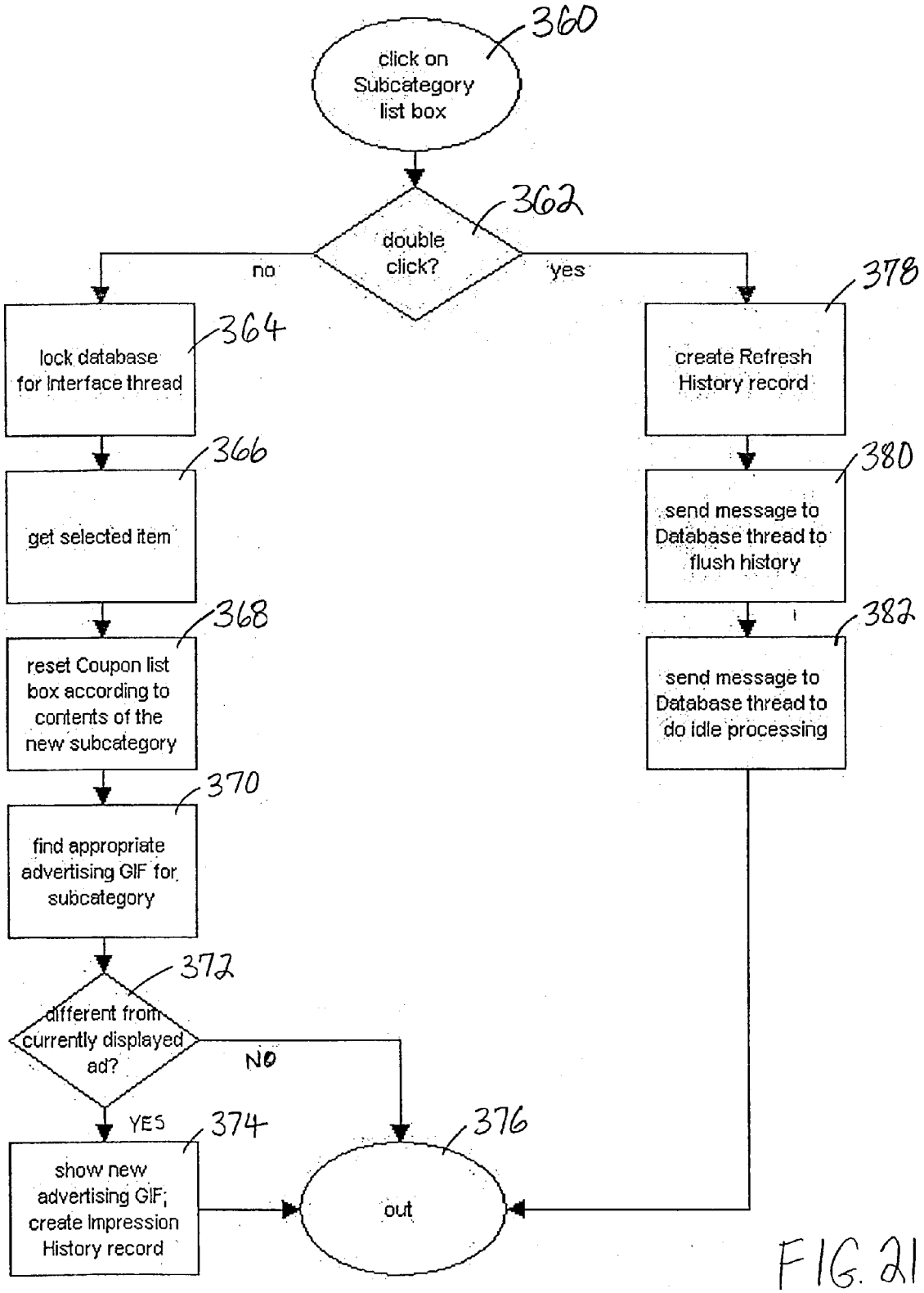

360
click on Subcategory list box
362
double click?
no
yes
364
lock database for interface thread
366
get selected item
368
reset Coupon list box according to contents of the new subcategory
370
find appropriate advertising GIF for subcategory
372
different from currently displayed ad?
NO
YES
374
show new advertising GIF; create Impression History record
376
out
378
create Refresh History record
380
send message to Database thread to flush history
382
send message to Database thread to do idle processing

FIG. 21

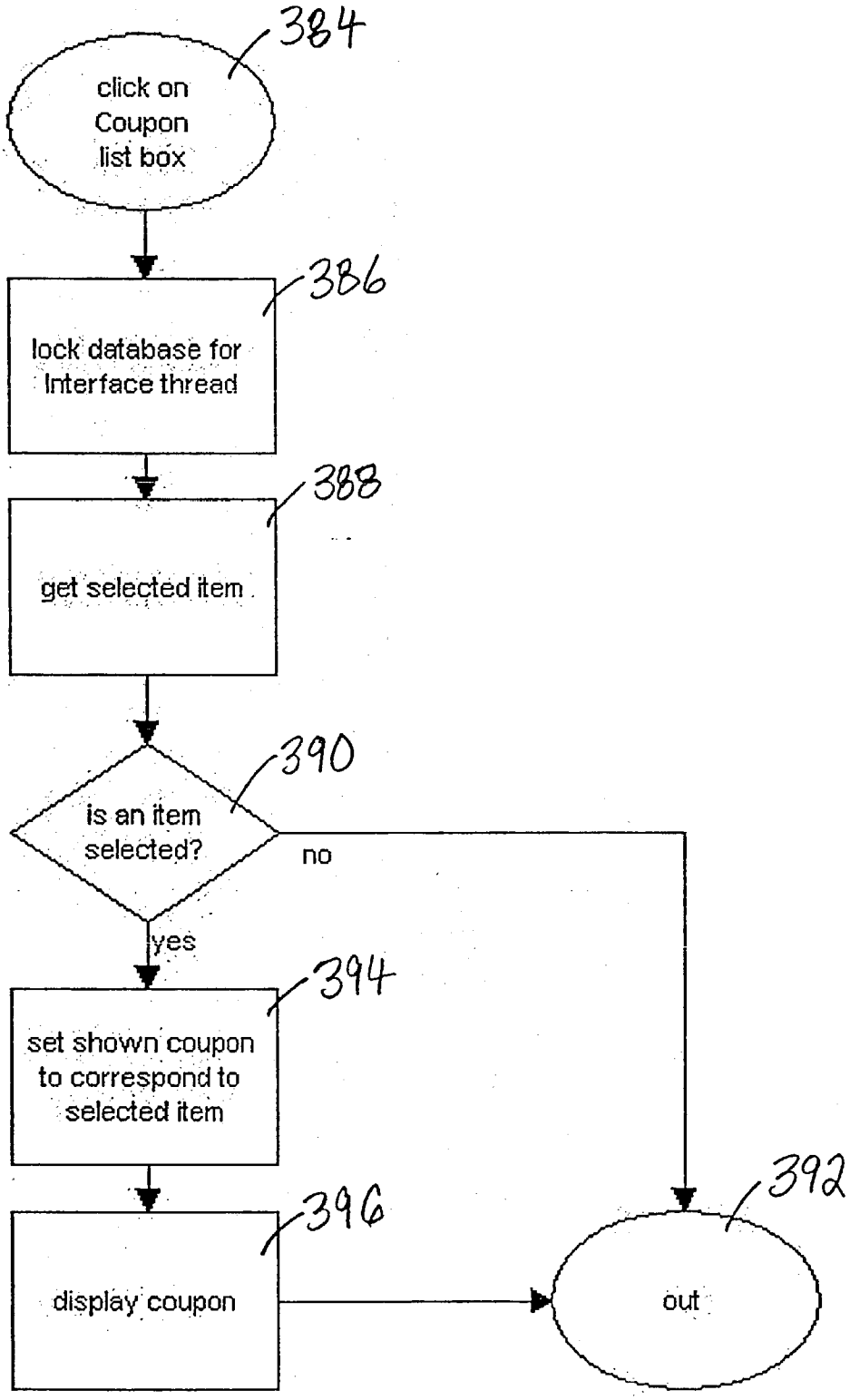

384
click on Coupon list box
386
lock database for Interface thread
388
get selected item
390
is an item selected?
no
yes
394
set shown coupon to correspond to selected item
396
display coupon
392
out

FIG. 22

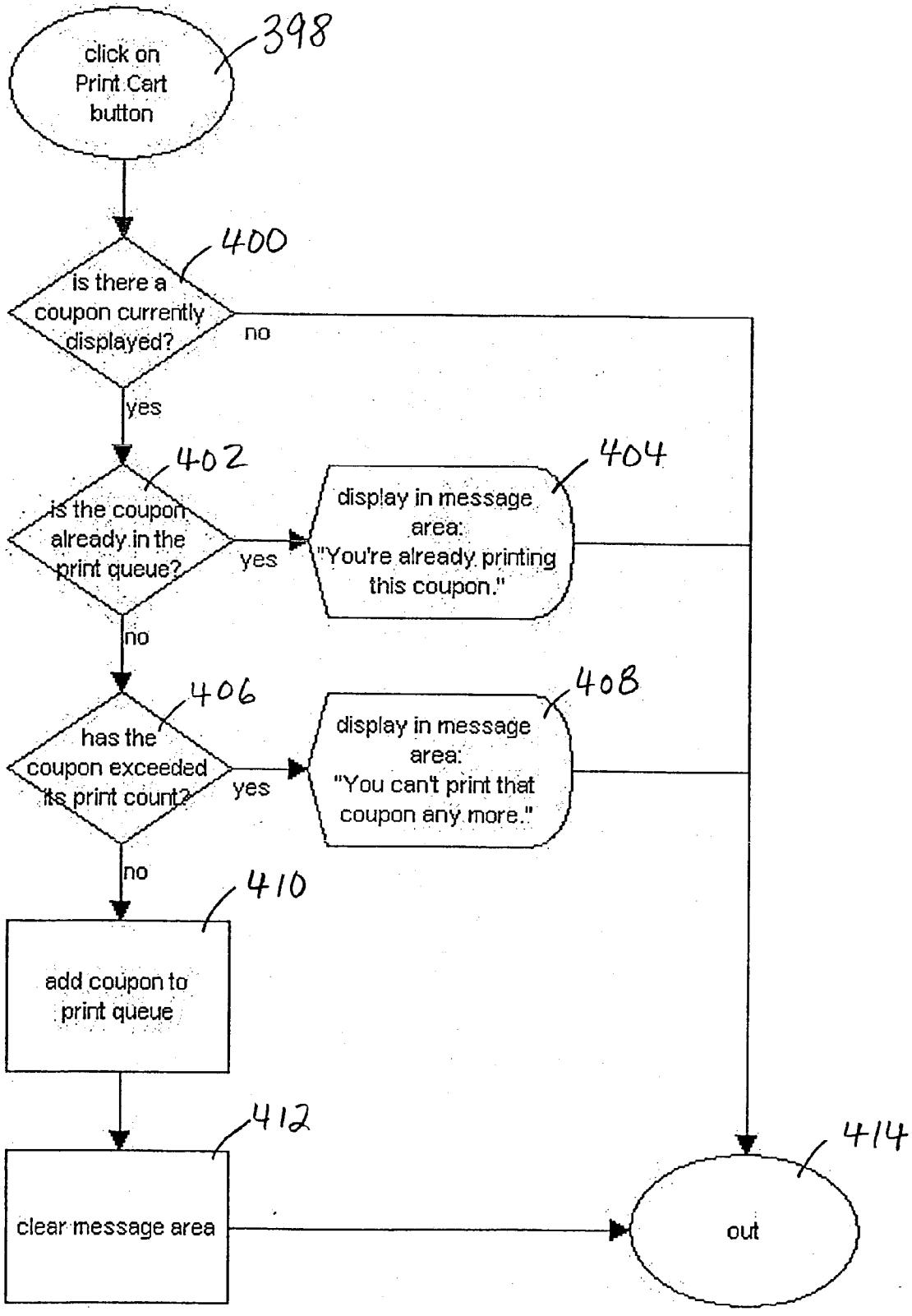

click on Print Cart button
398
is there a coupon currently displayed?
400
no
yes
is the coupon already in the print queue?
402
yes
display in message area: "You're already printing this coupon."
404
no
has the coupon exceeded its print count?
406
yes
display in message area: "You can't print that coupon any more."
408
no
add coupon to print queue
410
clear message area
412
out
414

FIG. 23

ELECTRONIC COUPON DISTRIBUTION SYSTEM

BACKGROUND OF THE INVENTION

[0001] 1. Technical Field

[0002] The present invention relates generally to a system and method for coupon distribution, and, more particularly, to an electronic coupon distribution system.

[0003] 2. Description of the Related Art

[0004] Every year, several hundred billion coupons are circulated in the United States. Nearly all are distributed using traditional "scatter gun" approaches, such as those included in Sunday circulars and direct mailings. However, consumers waste time clipping coupons that expire, or accumulate for years in undesirable places, such as kitchen drawers. Moreover, such traditional methods of coupon distribution do not effectively reach the ever increasing group of consumers that use public computer networks, such as the World Wide Web portion of the Internet (the "web").

[0005] One approach taken in response to these and other shortcomings involves providing for coupon delivery over the Internet, as seen by reference to U.S. Pat. No. 5,855,007 entitled "Electronic Coupon Communication System" issued to Jovicic et al. Jovicic et al. disclose a system for generating and redeeming unique product discount coupons over public computer networks such as the Internet. Jovicic et al. further disclose that the user of such a system must be registered in order to obtain the coupons, wherein registration requires the user to provide information sufficient to specifically identify a user, such as the user's name, address, Internet e-mail address, identification number, and the like. Jovicic et al. further disclose an Internet coupon server and a user display terminal in communication therewith. Once a displayed electronic coupon is selected by the user, the coupon server sequentially transmits the coupon's digital data pattern to the user's printing device. There are, however, numerous shortcomings to the system disclosed in Jovicic et al., as well as other, such as that disclosed in U.S. Pat. No. 5,761,648 to Golden et al.

[0006] First, known electronic coupon distribution systems require registration, which in turn requires that the user provide personal information. Users generally dislike providing such personal information as a matter of privacy, and, in any event, once obtained, such personal information is subject to further dissemination against the wishes of the user, through accident, inadvertence, omission, or otherwise. Users who have privacy concerns may avoid registering with such systems, which is undesirable from both the system proprietor's point of view, as well as the coupon sponsor's point of view. In addition, in known electronic coupon distribution systems, inadequate measures are taken to protect the coupon data. This sometimes results in more than the authorized number of the coupons being printed out for use (i.e., redemption). This outcome is essentially a fraud on the coupon sponsor. For example, in known web-based coupon distribution systems, the HTML (Hyper-Text Mark Up Language) code corresponding to the selected coupon provides inadequate protection (i.e., the HTML code can be intercepted). In addition, in known electronic coupon distribution systems, some electronic coupons are distributed by "clicking" on an ad banner or the like, which automatically directs the browser to a predetermined web URL (Uniform Resource Locator) via a "link", which includes an appended promotional code. While the intent of the e-coupon provider is to obscure the specified URL/Promotional code, in practice, such "protection" is easily defeated. In some instances, moving the mouse arrow over the ad/coupon will cause the "link" to be displayed on the user's monitor. In other instances, "right-clicking" on the ad/coupon makes the "link" (including the code) available for capture by the user. The captured URL can then be "posted" or e-mailed to others. As a result, unintended and unauthorized recipients will have access to the electronic coupon. Finally, electronic coupons that are cached or otherwise stored locally at the user's location are susceptible to misuse (i.e., being retrieved and reprinted outside of the system coupon browser provided by the coupon distributor). Overall, known electronic coupon distribution systems are relatively insecure in their ability to prevent fraud.

[0007] Another disadvantage of known electronic coupon distribution systems is that they require that the user be "online" to browse and select coupons. While Golden et al. provides the capability of printing coupons after disconnecting from the online system, such coupons are limited only to those selected while the user was online—that is, all coupon selection must occur while online. In addition, known electronic coupon systems require active intervention to obtain updated coupon and offer information.

[0008] There is therefore a need for an improved electronic coupon distribution system that minimizes or eliminates one or more of the shortcomings as set forth above.

SUMMARY OF THE INVENTION

[0009] One advantage of an electronic coupon distribution system in accordance with the present invention is that it ensures the privacy of its users by only collecting user information indicative of demographic characteristics of the user without obtaining information sufficient to specifically identify the user. The system therefore has the needed information to identify coupons appropriate for the user based on such user's demographic characteristics. Another advantage of the present invention is that it provides secure electronic coupon distribution through encryption of coupon information. Yet another advantage of the present invention is that it is configured to automatically update a client system through which the user interacts with new coupon data without any intervention by the user. Still yet another advantage of the present invention involves the deployment of a visual alert to inform the user of new coupon availability. In particular, the remote client system is configured to operate in accordance with an operating system (OS) characterized by a graphical user interface (GUI) wherein the client system includes an icon displayed in a different state (e.g., "flashing") when new coupons are available for the user.

[0010] These and other features and advantages are realized by a method of operating an electronic coupon distribution system comprising several basic steps. The first step involves collecting user information from a user of a client system indicative of one or more demographic characteristics of the user without obtaining information sufficient to specifically identify the user. The next step involves associating at a main server system a user ID with the collected user information. Next, selecting coupons according to the

user ID to thereby identify coupons appropriate for the user based on the user's demographic characteristics. Finally, the last step involves transmitting the selected coupons from the server system to the client system.

[0011] In a preferred embodiment, the user demographic characteristics include at least one of a postal zip code associated with the user and the state in which the user resides. By avoiding obtaining information sufficient to specifically identify the user, privacy is maintained.

[0012] In yet another preferred embodiment, coupon data at the server system is encrypted in accordance with a server system encryption strategy prior to being sent to the client system. This step minimizes the chance of coupon fraud. In a further embodiment, the encrypted coupon data as received at the client system is further encrypted in accordance with a client system encryption strategy to thereby generate doubly encrypted coupon data prior to being stored on the client system.

[0013] In yet a further embodiment, the client system transmits a request to the server system to provide updated coupon information automatically without any intervention by the remote user to thereby define a "persistent" client having automatic coupon delivery.

[0014] Other objects, features, and advantages of the present invention will become apparent to one skilled in the art from the following detailed description and accompanying drawings illustrating features of this invention by way of example, but not by way of limitation.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] **FIG. 1** is a diagrammatic and block diagram view of an electronic coupon distribution system in accordance with the present invention;

[0016] **FIG. 2** is a simplified block diagram showing, in greater detail, a database server portion of the main server system shown in **FIG. 1**;

[0017] FIGS. **3A-3B** illustrate a screen display defining an interface associated with a client system portion of the present invention;

[0018] **FIG. 4** is a simplified flowchart diagram view illustrating interactions between the client system, and the main server system in accordance with the present invention;

[0019] **FIG. 5** is a simplified flowchart diagram view showing, in greater detail, the initial steps illustrated in **FIG. 4** for system initialization;

[0020] **FIG. 6** is a simplified flowchart diagram view showing, in greater detail, an echo request step shown in block diagram form in **FIG. 5**;

[0021] **FIG. 7** is a simplified flowchart diagram view showing a server selection routine performed at the main server system;

[0022] **FIG. 8** is a simplified flowchart diagram view showing the steps for registration of a new user on the main server system;

[0023] FIGS. **9-11** are simplified flowchart diagram views showing, in greater detail, the steps of updating the master category list, plugins, and brand logo information, respectively, that are shown in block diagram form in **FIG. 4**;

[0024] **FIG. 12** is a simplified flowchart diagram view showing, in greater detail, the step of updating advertising data that is shown in block diagram form in **FIG. 4**;

[0025] **FIG. 13** is a simplified flowchart diagram view showing, in greater detail, the step of updating coupon data that is illustrated in block diagram form in **FIG. 4**;

[0026] **FIG. 14** is a simplified flowchart diagram view showing, in greater detail, the step of updating the main server system with a user history file that is shown in block diagram form in **FIG. 4**;

[0027] **FIG. 15** is a simplified flowchart diagram view showing the steps involved in obtaining a client script;

[0028] FIGS. **16-17** are simplified flowchart diagram views showing alternate responses taken by the client system in response to double-clicking a taskbar icon according to the invention;

[0029] **FIG. 18** is a simplified flowchart diagram view showing timing mechanisms for automatically updating coupon data without user intervention;

[0030] FIGS. **19-20** are simplified flowchart diagram views showing alternate actions taken by the client system in response to selection by the user of a logo pane and an advertising pane, respectively;

[0031] **FIG. 21** is a simplified flowchart diagram view showing the steps executed by the client system when a user selects an item from a coupon subcategory list;

[0032] **FIG. 22** is a simplified flowchart diagram view showing the steps executed by the client system when the user selects a particular coupon; and,

[0033] **FIG. 23** is a simplified flowchart diagram view showing the steps executed by the client system when a coupon is selected and added to a print cart.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0034] Referring now to the drawings wherein like reference numerals are used to identify identical components in the various views, **FIG. 1** shows an electronic coupon distribution system **10** in accordance with the present invention. Electronic coupon distribution system **10** includes a main server system **12** and a client system **14** that is remote from main server system **12**, connected together by a distributed computer network, such as the Internet **16**. A user desiring to obtain electronic coupons uses client system **14** to interact with main server system **12** to obtain electronic coupons.

[0035] Main server system **12** is configured to be connected to, or otherwise receive, coupon information from the issuer of such coupons (i.e., the coupon's sponsor). Although not shown, this function may be performed by a direct electronic connection with a sponsor system, or may involve loading data from a physically transportable data storage medium (e.g., diskette, tape, CD-ROM, etc.). The coupon sponsor may, and in most cases will, issue in connection with the coupon an associated set of instructions that define how the coupon is to be distributed. For example,

such instructions may include restrictions as to the number of coupons that any one user may print out for redemption, the state and/or zip code associated with a user for such user to have access to the coupon, the expiration date, the item and discount amount, etc Main server system **12** is further configured to be connected to, or otherwise receive, advertising information from an advertising sponsor. Although not shown, this function may be performed by direct electronic connection with the ad sponsor's system, or may involve loading data from a physically transportable data storage medium (i.e., diskette, tape, CD-ROM, etc.). The advertising impressions are displayed on client system **14**, as described in greater detail below.

[**0036**] Main server system **12** may include a website server **18**, a front-end server **20**, a handler **22**, a database server **24**, and an FTP server **26**.

[**0037**] Website server **18** is configured to provide "web pages" to consumers (including possible users of system **10**) with Internet access. Internet **16**, more particularly, the World wide Web portion thereof, "WWW", is an interconnected computer network that is generally distributed throughout the world on discrete interconnected computer nodes having software interfaces generally referred to as "web pages". Access to Internet **16** can be made by various methods; typically, however, a non-institutional user obtains access from one of a plurality of Internet Service Providers (ISPs), which in turn obtain authorized access to Internet **16**. Navigation on the WWW portion of Internet **16** involves knowledge of a directory structure of various nodes of the Internet (i.e., an "address" to each given resource on Internet **16**). Such an address is generally referred to as a Uniform Resource Locator (URL), which typically starts with a protocol name followed by a domain name, for example: http://www.valuepass.com. Website server **18** is configured to provide, among other things, an interface for effecting a download of client software that a consumer may download and execute to establish a client system **14** on his or her computer system. In this way the consumer may become an authorized user ("user") of system **10**. In particular, website server **18** may refer an Internet consumer to FTP server **26** for the client installation file. Website server **18** may comprise conventional apparatus known to those of ordinary skill in the art, and will therefore not be described in any further detail.

[**0038**] Front-end server **20** provides multiple interface and allocation/direction features for electronic coupon distribution system **10**. Front-end server **20** in the entity that is initially contacted by client system **14** at the start of each new session of system **10**, or when automatic coupon updates occur. Front-end server **20** may comprise conventional apparatus known to those of ordinary skill in the art.

[**0039**] Handler **22** is configured to interface with database server **24**. After a new session is established by a user, all subsequent requests by client system **14** are directed to and are "handled" by handler **24**. As a result, handler **24** may thereafter issue a request or a command to database server **24**, or directly respond to client system (if configured to do so). Handler **22** may comprise conventional apparatus known in the art.

[**0040**] Database server **24** may comprise a plurality of physical, individual general purpose digital computers configured as database servers, which may be further configured in a cluster arrangement. Database server **24**, in one embodiment, may be configured to operate using SQL server software, such as Microsoft SQL Server Version 7, commercially available from, for example, Microsoft Corporation, Redmond, Wash. U.S.A.

[**0041**] FTP server **26** may be configured to operate in cooperation with website server **18** to provide, for example, installation or setup programs. The installation program(s) are downloaded to a general-purpose computer (e.g., PC or a MAC) for installation of the client software in accordance with the present invention. FTP server **26** may comprise conventional apparatus known to those of ordinary skill in the art.

[**0042**] Client system **14** includes client application software **28**, user identification (ID) data **30**, user preference data **32**, user history data **34**, coupon data **36**, and advertising data **38**. In addition, client system **14** may comprise conventional, general purpose computing apparatus configured to operate in accordance with an operating system having a graphical user interface, such as, for example, Windows 95/98/NT 4.0, and Apple Computer, Inc.'s. MAC OS Operating System for Macintosh platforms. Client system **14** may further include standard peripherals such as a display device **40**, a monitor **40**, a keyboard **42**, a pointing device, such as a mouse **44**, and an output device, such as a printer **46**, for producing a "hard copy" of a selected coupon **48**.

[**0043**] Client application **28** comprises software compatible with and executing on client system **14** configured to implement the present invention as described herein. Client application **28** performs various functions including, but not limited to, collecting user information, including preferences, communicating with main server system **12** via Internet **16**, and providing an interface for the user for browsing through, and selecting, coupons for printout.

[**0044**] User identification ID **30** may comprise a multi-digit number that is assigned by main server system **12**, more particularly, database server **24**, when a user registers with coupon distribution system **10**. User ID **30** may have a format, such as XXX/XXXXXXXX, where X is a digit between 0-9. The user ID, however, does not specifically identify the user personally, but rather, more accurately associates a physical machine defining client system **14** with user profile information obtained during registration. User identification **30** is stored on client system **14** as a part of a UserInfo object, and is provided to main server system **12** when making requests, for example, for new coupon data. Main server system **12** can then correlate the provided user ID **30** with user information stored in a profile database. The user information may then be used in identifying coupons suitable for the user. Significantly, however, the user is not personally identified nor is it even possible (e.g., through the "hacking" of server system **12**) to identify the user personally, as such information is not even collected from the user. Accordingly, the approach described herein maintains privacy of the user of system **10**.

[**0045**] The UserInfo object further includes user information collected from the user of client system **14** indicative of one or more demographic characteristics of the user. Significantly, the user information is insufficient to specifically identify the user. In a constructed embodiment, such information comprises a postal zip code associated with the user,

and a state in which the user resides. Client application **28** allows the user to update this information after initial registration. In addition, the UserInfo object includes the mode in which the Internet is accessed, for example, through use of a modem (e.g., dial-up), through use of a Local Area Network (LAN), or use of a proxy server. The UserInfo object may further include the version number of the client application software **28**.

[**0046**] User preference data **32** comprises two main groups. The first group of information contained in user preference data **32** includes information defining how often the main server system **12** is checked for new coupons. In a constructed embodiment, the options include one hour, two hours, four hours (the default), twice a day, and once a day. The first group of information contained in user preference data **32** may also include a miscellaneous item of information indicating whether the user prefers that certain coupons be automatically printed (this may be selected or deselected by the user). The second main group of information included in user preference data **32** includes a comprehensive listing of main categories of coupons selected by the user that the user wishes to receive. While the particular main coupon category descriptions may be changed on main server system **12** and downloaded to client system **14** at any time, exemplary categories include "Apparel", "Athletics", "Automotive", and "Internet Electronics", among others. A user can deselect a category, in which case coupons pertaining to that category will not be sent from main server system **12** to client system **14**.

[**0047**] User history data **34** comprises data corresponding to events occurring at the remote client system **14**, as well as other items pertaining to the operation of client system **14**. All these items are stored in a user history file. For example, when a user is browsing through available coupons, each coupon that is selected for viewing is noted in the user history file. Likewise, when a coupon is selected for printing, that action is also recorded in the user history file. Other examples include when a coupon is actually printed, and when an advertising impression (described in further detail below) is displayed on display **40**. The information contained in the user history file **34** is encrypted by client application **28** in accordance with a client system encryption strategy to protect the integrity of the data contained therein. The contents of the user history file **34** will be described and illustrated in greater detail in connection with **FIG. 14**.

[**0048**] Coupon data **36** includes information corresponding to the electronic coupons available (e.g., for browsing) on client system **14**. Each electronic coupon, such as coupon **48**, includes a plurality of items of information associated therewith. Therefore, a structure is defined for each electronic coupon having the items of information set forth in Table 1 below.

TABLE 1

Electronic Coupon Data Structure	
1.	Electronic Coupon Sponsor Name
2.	Product or Service Description
3.	Savings or Discount Amount
4.	The Number of Electronic Coupons Available for Printout
5.	The Number of Electronic Coupons Printed Out Thus Far
6.	Expiration Date
7.	Optional Text/Image(S)
8.	Coupon Identification Number

[**0049**] In addition, when a coupon **48** is actually printed out, additional information may be printed out on the "hard copy" of the electronic coupon. These additional items may include the user ID **30**, portions of the demographic data such as the postal zip code, one or more items of the user information contained in user preference data **32**, the date and time, and optionally various Internet URLs. Coupon sponsors have found some of the information appearing on printed coupon **48** desirable. That is, when the user redeems a coupon **48**, for example, at a retail store, information appearing on coupon **48** (which is eventually returned by the retailer to the coupon issuer or sponsor) is available to the coupon sponsor. This information may thereafter be used in analyzing and assessing the efficacy of various advertising/promotional strategies. Coupon data **36** may be stored on a hard drive or the like associated with client system **14**, and is preferably stored in an encrypted form. In particular, and in accordance with the present invention, coupon data **36** corresponding to electronic coupons is encrypted by main server system **12** in accordance with a server system encryption strategy. The encrypted coupon data is then transmitted to client system **14**. Client system **14** further encrypts the once-encrypted coupon data in accordance with a client system encryption strategy to thereby generate doubly encrypted coupon data. The doubly encrypted coupon data **36** may then be stored on the client system **14**. The foregoing encryption steps substantially minimize the occurrence of fraud in the distribution of electronic coupons compared to known systems. A user, for example, can therefore not easily defeat the coupon counting scheme that limits the number of printouts by, for example, exploring the client system's hard drive, identifying coupon data, and thereafter producing printed copies of the coupons. Use of the environment established by client application software **28** is therefore practically the only means for the user to obtain usable coupons **48**.

[**0050**] Advertising data **38** comprises a plurality of advertising impressions wherein each impression may include a predetermined combination of text and images. Advertising data **38** is also stored on client system **14** in an encrypted form.

[**0051**] Display **40**, keyboard **42**, mouse **44**, and printer **46** may comprise conventional apparatus known to those of ordinary skill in the art.

[**0052**] **FIG. 2** shows, in greater detail, database server **24** of main server system **12**. As described above, database server **24** may comprise a plurality of physical database servers arranged in a cluster. Further physical machines may be added to provide for load balancing (i.e., scalability, and the ability to quickly add additional hardware as load and responsiveness criteria require). Database sever **24** may include a coupon database **50**, an advertising database **52**, a master category list database **54**, a plugin database **56**, a brand logo database **58**, and a user transaction history database **60**.

[**0053**] Coupon database **50** includes coupon data similar to that described in connection with coupon data **36**, but is more in the nature of a master coupon database including the entire universe of electronic coupons available on electronic coupon distribution system **10**.

[**0054**] Advertising database **52** includes a plurality of ad impressions, which may be a combination of text and/or

images. Again, advertising database **52** is in the nature of a master advertising database including all of the advertising impressions included in main server system **12**.

[**0055**] Master category list database **54** includes the main coupon category names presently established on electronic coupon distribution system **10**. In addition, display characteristics, such as the color of a main coupon category button (to be described in connection with **FIG. 3A**) may also be stored in database **54**.

[**0056**] Plugin database **56** includes information as to available plugins for use in connection with client application **28** of client system **14**. Plugin database **56** includes a plurality of plugins. The particular plugins that are selected for use in connection with client application **28** depends on what added functionality has been configured in system **14**. For example, plugins may be configured to provide Zodiac information, recipe information, and stock quote information to the user. Additionally, a plugin may be configured to provide a new coupon style for the user. In this way, client system **14** can be updated remotely with new functionality.

[**0057**] Brand logo database **58** includes information as to how the user interface of client system **14** is "branded". The default "branding" of the user interface involves the display of a company logo of the assignee of the present invention. Also, a corresponding Internet URL for "clickthrough" purposes is associated with the brand image. However, in alternate embodiments, other companies may arrange (e.g., through a referral of potential new users of electronic coupon distribution system **10**) to have the user interface of client application **28**"branded" with the referring company's logo (and Internet URL for "clickthrough").

[**0058**] User transaction history database **60** includes information contained in user history file **34** uploaded from client system **14**. User transaction history database **60** therefore contains information corresponding to actions or events taken by or involving the user of client system **14**. Database **60** therefore includes a record for each coupon that has been downloaded or otherwise provided to client system **14**. As each coupon is displayed, or printed by the user, for example, the corresponding record in database **60** is updated.

[**0059**] Referring now to **FIGS. 3A and 3B**, **FIG. 3A** shows a Graphical User Interface (GUI) **62** displayed on display **40** in connection with to the execution of client application software **28**. Interface **62** includes a plurality of main coupon category "buttons"**64** each having a respective status indicator **66** associated therewith. Interface **62** also includes a coupon subcategory list **68**, a coupon list **70**, an advertising pane **72**, a logo pane **74**, a main coupon display area **76**, an "Add-To-Print-Cart" button **78**, a "Print Now" button **80**, a "More Info" button **82**, a "Delete" button **84**, a "Preferences" button **86**, a "Promotions" button **88**, a "Refresh" button **90**, a printout status display area **92**, and a general message display area **94**.

[**0060**] Main coupon category buttons **64** allow the user of client system **14** to select the general category of coupons that the user is interested in viewing. For example, the user who is interested in browsing through entertainment coupons, would select the main category button **64** designated "Entertainment" using, conventionally, a pointing device such as mouse **44** (e.g., via "clicking" on the button). Status indicator **66** associated with each main coupon category button **64** indicates whether there are coupons under that main category that have not yet been displayed in display area **76**. As shown in **FIG. 3A**, when a status indicator **66** is "checked" (i.e., active), as indicated generally at 66_A for the main coupon category button labeled "Added Extras", such indication informs the user that coupons are available under that main coupon category that have not yet been displayed. Alternatively, when there are no undisplayed coupons under a main category, the "checked" status indicator **66** becomes inactive and is removed, as shown by a dashed line box designated 66_I where a status indicator would otherwise be displayed had it been "active".

[**0061**] When one of the plurality of main coupon category buttons **64** is selected, a corresponding subcategory list is displayed in subcategory list **68**. A user may then browse through the items contained in subcategory list **68** and make a selection. When one of the items contained in subcategory list **68** is selected by the user (e.g., via "clicking"), the corresponding individual coupons or informational messages are displayed in coupon list **70**. The user may then select an item from coupon list **70**, which will then be displayed in coupon display area **76**. Through the foregoing interface, users of system **10** can quickly and easily navigate from broad main coupon categories, to individual coupons, for printout and later redemption. If the user desires to print out a particular coupon, the user can select the print cart button **78** to add the selected coupon to a print cart or queue for subsequent printout on printer **46**. Alternatively, the user may print the selected coupon immediately by selecting the "Print Now" button **80**.

[**0062**] Advertising pane **72** is configured to display an advertising impression. In one embodiment, the advertising impression is selected from a plurality of advertising impressions as a function of a selected coupon subcategory. For example, a vendor of electronic equipment may arrange to have an ad impression for that vendor's company displayed in advertising pane **72** when the user selects a particular coupon subcategory from list **68** when the "Internet Electronics" category button **64** is selected. As a further feature, the advertiser may provide an Internet URL (e.g., to its home page) and have it associated with the ad impression. Client application **28** is configured such that when a user selects (e.g., "clicks") advertising pane **72**, an Internet browser program associated with client system **14** is launched and is directed to the URL as specified by the advertiser. This is a so-called "clickthrough" occurrence, which is recorded in the user history file.

[**0063**] Logo pane **74** provides a display area through which the user interface **62** of system **10** can be "branded". As with advertising pane **72**, an Internet URL may be associated with the brand logo displayed in logo pane **74**. Client application **28** is configured such that when the user selects (e.g. "clicks") logo pane **74**, an Internet browser program associated with client system **14** is launched and is directed to the specified URL.

[**0064**] The "Print Now" button **80** is configured under client application **28** such that when selected, the coupon currently being viewed is printed out on printer **46**. If there are one or more other coupons currently in the print queue, as a result of prior selection of the print cart button **78** for previously displayed coupons, then selection of the "Print

Now" button **80** by the user will operate to print all such selected coupons **48** on printer **46**.

[**0065**] The "More Info" button **82** is configured under client application **28** to launch an Internet browser program associated with client system **14** when selected, and, further, to direct the browser to a specified URL. In accordance with a secure e-couponing embodiment of the present invention, predetermined ones of the coupons displayed in coupon display area **76** may be redeemed by the user electronically (as opposed to printing out the displayed coupon and physically tendering the same to the retailer). Generally, a portion of the coupon being displayed in display **76** will tell the user to click on the "More Info" button **82** to instantly redeem the coupon. Client application **28** is configured to invoke, in response to the "click", the specified but completely hidden and inaccessible URL (including the appended promotional code) using an Internet browser program. Client application **28** disables access to the invoked URL/code. For example, moving the mouse arrow over the coupon/ad does not cause the URL to be displayed, nor is "right-button clicking" operative to allow capture of the URL. Accordingly, the specified URL (and code) is neither displayed nor available, and cannot be discovered by, for example, "right-clicking" on coupon display **76**, like conventional web-based e-coupon distribution systems. The browser takes the user to the website corresponding the specified URL, where the appended promotional code is processed, and the user provided an opportunity to redeem the same. The present invention therefore provides secure electronic coupon distribution. In another embodiment, the specified URL that is invoked when the "More Info" button **82** is "clicked" comprises the URL associated with an advertiser's website (i.e., the advertiser associated with an ad impression displayed in advertising pane **72**).

[**0066**] The "Delete" button **84** is configured under client application **28** to delete the currently viewed coupon when selected by the user.

[**0067**] The "Preferences" button **86** is configured under client application **28** to allow the user to set and/or modify the information contained in the user preference data **32**, when selected by the user. For example, the refresh interval referred to above may be updated by the user to extend or foreshorten the coupon update interval.

[**0068**] The "Promotions" button **88** is configured under client application **28** to prompt the user to enter a promotion code to obtain a special promotion coupon, when selected by the user. For example, a third-party website, or the like, may advise the user of a promotional code, with instruction to establish a client system **14** (if they are not already a registered user), and then to enter the promotion code as described above, to obtain the promotional coupon.

[**0069**] The "Refresh" button **90** is configured under client application **28** to transmit an update request from client system **14** to main server system **12**, when selected by the user. This action, in-effect, requests that any new coupons waiting for the user on main server system **12** at that point in time be downloaded to client system **14**. Additionally, any data in the user history file is uploaded.

[**0070**] Print status display area **92** is provided for displaying messages pertaining to the status of the print cart (e.g., "Items to Print: 2").

[**0071**] Message display area **94** is provided for displaying various messages to the user of client system **14**.

[**0072**] Referring now to **FIG. 3**B, the graphical user interface associated with the operating system of client system **14** may include a taskbar **100**. In accordance with the present invention, a taskbar icon **102** is provided. Client application software **28** is configured to display taskbar icon **102** to the user in a first display state when no new coupons or messages are available to the user. Icon **102** in the first display state may assume a static display. In constructed embodiment, taskbar icon **102** includes a generally black-colored "%" symbol on a yellow-colored background, all enclosed by a dashed-line box. Client application software **28** is further configured to display taskbar icon **102** in a second display state different from the first display state when new coupons or messages are available for the user. In a constructed embodiment, the second display state associated with taskbar icon **102** comprises a quasi-flashing display state wherein (i) the color of the "%" symbol is indexed or rotated through a plurality of different colors, and (ii) the dashed-line enclosure box is manipulated to give the sense of movement, particularly rotation, around the perimeter of icon **102**.

[**0073**] Referring now to **FIG. 4, a** brief description of the operation of system **10**, particularly the main interactions between client system **14** and main server system **12**, will now be set forth. Each time a new session is commenced, the basic steps set forth in **FIG. 4** will be performed.

[**0074**] In step **104**, client system **14**, by way of execution of client application software **28**, is initialized.

[**0075**] In step **106**, client application **28** determines whether there is an identified user for client system **14**, or whether the present user is a "new" user. Client application **28** may make this determination based on the existence or absence of particular files on client system **14** (e.g., a file containing a user ID **30**) indicative of whether or not this is a "new" user. If "NO", then the method branches to step **112**. Otherwise, if the answer to step **106** is "YES", then the method branches to step **107**.

[**0076**] In step **107**, client application **28** obtains user information from the user. In particular, client application **28** is configured to collect user information from a user of client system **14** indicative of one or more demographic characteristics of the user without obtaining information sufficient to specifically identify the user. In a constructed embodiment, the information obtained comprises a postal zip code associated with the user, and a State where the user resides. Personal information such as the user's name, e-mail address, residence address, social security number, telephone number, and the like is not obtained in step **107**. In accordance with the present invention, the foregoing step provides useful information to main server system **12** in the selection of coupons appropriate for the user (e.g., geographic area). Coupons from merchants located geographically proximate the user's residence may be more easily redeemed by the user, thus increasing the efficacy of the coupon offer. Other information, such as the type of Internet connection (e.g., modem), may also be obtained from the user in step **107**.

[**0077**] In step **108**, main server system **12** registers the "new" user. Server system **12** determines whether the user of

remote client system **14** is a "new" user based on the presence or absence of a user ID **30** in a message from client system **14** to server system **12**. The "new" user is then registered on main server system **12**. Main server system **12** is configured to register the new user by performing, among other things, the steps of allocating a new user ID, and associating the new user ID with the user information obtained in step **107**. Through the foregoing, remote client system **14** can always be identified by its user ID.

[**0078**] In step **109**, client system **14** and main server system **12** communicate so as to update the master category list, plugins, brand logo information, advertising data and coupon data at the remote client system **14**. This is done, for the first time the application **28** is executed, by searching the main server system **12** for new information that has come into being between the time the installation or setup program that the user used to install client system **14** was populated with such data (the "sync" date), and the present time (the server date).=The identified information is downloaded to thereby update client system **14**. This step ensures that the user of client system **14** has the most up-to-date information in these categories. The method then proceeds to step **110** wherein main application **28** is executed.

[**0079**] When the answer to step **106** is "NO", then the method branches to step **112**. In step **112**, client application determines whether client system **14** is "online". Client system **14** is "online" when the user is connected to the Internet such that client system **14** can communicate with main server system **12**. While this basic step will be described in greater detail below (**FIG. 6**), it bears emphasizing that client system **14**, in a preferred embodiment, will not force a connection to Internet **16**. Rather, if there is no "online" connection, the user of client system **14** will have access to coupons in an "offline" mode of operation. Thus, if the answer to step **112** is "NO", then the method branches to step **110**. Otherwise, when the answer step **112** is "YES", then the method branches to step **114**.

[**0080**] In step **114**, main system **12** identifies the remote client system **14** based on a user ID **30** provided by client system **14**. In this way, main server system **12** can utilize the information "on file", such as state and zip code, for a variety of purposes. In a constructed embodiment, the state and zip code data are included in a request by front-end **20** to database server **24** to select a server that will service this user for this session (described in detail in connection with **FIG. 7**). The response to the request is a virtual IP address to a particular handler **22**, and a selected database "name" of a selected database server **24**.

[**0081**] In step **116**, server system **12**, particularly the assigned handler **22** and server **24**, is updated with any information contained in user history file **34** that has not yet been uploaded and processed. The user history file contains information indicative of actions taken by, or, events occurring in response to actions taken by, the user of remote client system **14**. As described above, the user history file **34** contains information such as the identity of coupons selected, coupons printed, advertising impressions displayed in advertising pane **72**, etc. The assigned handler **22** in conjunction with server **24** uses the user history file in at least two ways: (i) to produce data from which a user script can be built by the remote client system **14** and, (ii) to update the user transaction database **60**, which may then be queried to prepare reports that will be provided as feedback to the various advertising sponsors, coupon issuers, and coupon referral agents.

[**0082**] Step **118** involves obtaining a client script for execution by client system **14**. Step **118** includes the substep of identifying coupons at the main server system **12** suitable for the user. What is suitable for any particular user may be based the user ID, the user information associated with the user ID, the main coupon categories selected by the user, the OS platform (e.g., MAC OS vs. Windows), the version of application **28**, the cobrand ID, and the promotional code, if any. Use of these criteria can be either inclusive or exclusive. Client system **14** may be sent lists of undownloaded coupons, undownloaded ads, etc. The lists may only identify, for example, the coupons to be downloaded (not the coupon itself). Steps **120**, **122**, and **124** involve obtaining the actual coupon data, ad data, etc.

[**0083**] In step **120**, the master category list, plugins, and brand logo information is updated, based on execution of the client script by client system **14**. Particularly, client system **14** works through the list of needed items.

[**0084**] In step **122**, advertising data comprising advertising impressions from advertising database **52** are updated at the remote client system **14**. This step ensures that the user has the most up-to-date advertising available. Again, client system **14** works through a list of needed ads, sequentially making requests from database server **24**.

[**0085**] In step **124**, coupon data from coupon database **50** is updated at remote client system **14**. Updating of the coupon data includes retrieving coupon data corresponding to the identified electronic coupons (i.e., the list provided as part of the client script).

[**0086**] **FIG. 5** shows steps **104**, **106**, **107** and **112** of **FIG. 4** in greater detail. The method begins in step **126** with initiation of client application **28**. In step **128**, if client application **28** properly initializes, then the method branches to step **130**. Otherwise, the method branches to step **144** where execution of client application **28** ends.

[**0087**] In step **130**, a "mutex" is created by client application **28**. "Mutex" stands for "mutually exclusive." Programs or code segments that establish a mutex prevent other programs or code segments from running if they try to establish a mutex with the same ID. Client application **28** employs mutex functionality in the Microsoft Operating system to ensure that only one instance of application **28** is running on any given client system **14**. A second instance would be denied use of the mutex, and that instance would then exit.

[**0088**] In step **132**, a test is performed to determine whether the mutex already exists. If the answer is "NO", the method branches to step **144** where client application **28** ends. However, if the response to the inquiry in step **132** is "YES", then the method branches to step **134**.

[**0089**] In step **134**, taskbar icon **102** is created by client application **28**. The taskbar icon **102** is graphically illustrated in **FIG. 3B**. As described above, a quasi-flashing taskbar icon **102**, in a preferred embodiment, is a visual alert to the user of client system **14** that new coupons or offers are available for browsing. The method then proceeds to step **136**.

[0090] In step **136**, a UserInfo object is loaded (if it already exists) or created (if it does not already exist). If this is the first time the client application **28** has been executed, the UserInfo object must be created. As described above, the UserInfo object includes user ID **30**, demographic data, proxy server information, if any and software version number. This information may be stored, for example, on a hard drive portion of client system **14**. The method then proceeds to step **138**.

[0091] In step **138**, client system **14** transmits an echo request to main server system **12**, which is received by front-end server **20**. Inasmuch as client system **14** may be connected to the Internet in a variety of logically and physically different configurations (e.g., dial-up connection, proxy server, hidden proxy server such as in the case of AOL, etc.), step **138** is provided to ensure a virtual channel for messaging between client system **14** and main server system **12**. The method then proceeds to step **140**.

[0092] In step **140**, a user preference file containing user preference data **32** is loaded into the memory of client system **14** for use by client application **28**. Initially, a default set of information is used, in which all coupon categories are selected and the refresh interval is set to 4 hours. The method then proceeds to step **142**.

[0093] In step **142**, a test is made by application **28** to determine whether the user preference file has loaded successfully. If the answer to this inquiry is "NO", then the method branches to step **144** ("end program"). This may occur when the user preference file has been deleted, for example. On the other hand, if the answer to step **142** is "YES", then the method branches to step **146**.

[0094] In step **146**, a memory database is created for maintaining user history events. This database is configured to contain the user actions taken by the user, ad impression displayed, etc., and to store the same for later transmittal to main server system **12** as user history file **34**.

[0095] In step **148**, taskbar icon **102** (**FIG. 3B**) is activated. This provides a visual cue to the user that client application **28** is available, and, that coupon lists may be browsed, coupons selected and printed out, or any other function available on client application **28**. Under certain circumstances, icon **102** alerts the user to new coupons or offers.

[0096] In step **150**, client application **28** begins main event loop processing. In main event loop processing, certain action, such as, for example, selecting a main coupon category, selecting a coupon subcategory, selecting a particular coupon, displaying a coupon, printing a coupon, refreshing the local coupon database, etc., may be initiated by the user and detected and executed by client application **28**. While the program in accordance with the present invention may be invoked manually by user of client system **14**, many operating systems, notably Windows 95/98, allow the user to specify that the execution of client application **28** should occur on startup of the computer on which client system **14** resides. Accordingly, without any further intervention by the user, upon each startup of client system **14**, client application **28** will initialize.

[0097] **FIG. 6** shows step **138** of **FIG. 5** (the "echo request" or "ping the net" step) in greater detail. Execution of the method begins in step **152** wherein the "ping thread" portion of client application **28** commences execution.

[0098] If client system **14** is not "online", application **28** will not force an Internet connection. Thus, in step **154**, client application **28** suspends the "AutoDial" setting in the Windows registry. This ensures that the echo request to front-end server **20** does not automatically cause a dialog window to be presented to the user asking for ISP Identification and Password information.

[0099] In step **156**, client system **14** through execution of client application **28**, transmits a request to front-end server **20** to echo. The nature of the requested "echo" may simply be a return transmittal of an acknowledgement from front-end server **20**.

[0100] In step **158**, the "AutoDial" setting is restored in the Windows registry.

[0101] In step **160**, the ping thread performs a test to determine whether the requested "echo" was received by way of a return transmission from front-end server **20**. If the answer to this inquiry is "YES", then the method branches to step **162**, wherein a positive indication that an echo response to the echo request was returned to the client system ("DB_PINGOK") is generated. The positive indication is provided to client application software **28** (particularly, a database thread portion thereof).

[0102] Otherwise, if no echo was received from front-end server **20**, then a negative indication ("DB_NOPING") is sent to the database thread in step **164**. In either case, control from steps **162** and **164** both proceed to step **166**, which is an exit step from the ping thread portion of client application **28**.

[0103] **FIG. 7** shows in detail the steps performed by main server system **12**, particularly front-end server **20**, in requesting that an appropriate handler **22** and database server **24** be selected for servicing client system **14**. This "server select" operation occurs immediately after a successful "echo request" operation (**FIG. 6**). A plurality of database servers **24** are preferably deployed, the particular number of which is selected to match the quantity of incoming requests ("load") from the multiplicity of client systems **14** installed remotely. Step **168** marks the beginning of the method. At this point, server system **12** has in its possession at least the demographic information previously collected (e.g., state and zip code) even if it's a "new user" with no assigned user ID yet. The database server receives the request. The method then proceeds to step **170**.

[0104] In step **170**, a database server **24** routine selects entries from a server table where the state in the table matches the state of residence provided by client system **14**. The table entry information defines the logical entities that will service this client system **14**.

[0105] In step **172**, an Internet Protocol (IP) address and a database name are reported over Internet **16** to client system **14**. Subsequent requests during this session from client system **14** regarding requests for updated data and the like will be sent in a message addressed to the selected server IP address (which points to a handler **22**), and will include in that message the selected database name, which logically maps to entries selected in step **170** (e.g., these may be various ad databases **52**, coupon databases **50**, etc.). The

selected IP address, in-effect, is a virtual IP address since there are a plurality of database servers **24**, perhaps arranged in a cluster, that are physically provided in order to provide the desired load carrying capacity. The routing function is performed on server system **12**, by handler **22** in a manner known to those of ordinary skill in the art. Such routing software and/or hardware may comprise conventional apparatus known to those of ordinary skill in the art. The method ends in step **174**.

[**0106**] **FIG. 8** shows the steps performed on main server system **12** to register a new user. The process begins in step **176** with commencement of the registration routine. In step **178**, a new user ID is calculated by database server **24**.

[**0107**] In step **180**, a new entry or record is created in a user profile table. The profile entry will associate the user ID with the user information collected from the user. The method then proceeds to step **182**.

[**0108**] In step **182**, database server **24** determines whether a "sync date" was provided from client system **14**. This is a date that describes how "up-to-date" client system **14** is, particularly the coupon and advertising information portions thereof. The use of the sync date has been described above in connection with **FIG. 4**. This "sync date" is automatically provided from client system **14** to database server **24** via the assigned handler **22**. If a "sync date" was not provided by client system **14**, then the method branches to step **184** where a nominal sync date based on the version of the software installed on the client system is used for downloading and updating purposes. Alternatively, if the answer to step **182** is "YES", then the method branches to step **186**.

[**0109**] In step **186**, the date provided by client system **14** is used as the "sync date" to synchronize the data on client system **14** relative to the master data on main server system **12**. It should be emphasized that the "sync date" is not a date that client application **28** solicits from the user, but rather, is simply a date available within client application **28** relating to the how "current" the data is (i.e., coupon/advertising data, etc.). In either case, the method proceeds to and ends at step **188**.

[**0110**] **FIGS. 9, 10** and **11** show step **120** (**FIG. 4**) in greater detail. Referring to **FIG. 9**, step **190** represents a request to obtain a master category list (i.e., the up-to-date list). This request is made from client system **14** to the selected database server **24** via handler **22**. Such a request is directed to the selected ""virtual" IP address as described above. The master coupon category list (e.g., "Athletics", "Automotive", "Internet Electronics", etc.) may be updated on main server system **12**, particularly database server **24**. That is, categories may be added, and/or categories may be deleted. In either case, such a change will be reflected in interface **62** of the respective client systems **14** when the next session is invoked by a user.

[**0111**] In step **192**, all undeleted master coupon categories, along with their display color (as displayed on display **40** of client system **14**) are reported out to client system **14** for use by client application software **28**. Step **194** ends the master coupon category list updating process.

[**0112**] Referring now to **FIG. 10**, step **196** represents a request from client system **14** to database server **24** via handler **22** to obtain a new or an up-to-date plugin(s). It should be understood that for an existing user, client system **14** may be executing a client script that includes a list containing needed plugins. The process outlined in **FIG. 10** would be executed for each plugin on the list.

[**0113**] In step **198**, database server **24** performs a look-up of the needed plugin to locate the corresponding plugin file (or image).

[**0114**] In step **200**, an "image" or copy of the file of the sought-after plugin is encrypted in accordance with a server system encryption strategy, and is reported or transmitted via Internet **16** to client system **14**. In step **202**, the plugin update process is completed.

[**0115**] Referring now to **FIG. 11**, steps **204-222** illustrate the steps involved in determining whether to maintain a default brand logo in logo pane **74** (**FIG. 3A**), or, in the alternative, whether to download a different brand logo. While a default brand or company logo is associated with client system **14** initially, the default may be changed. For example, a user of Internet **16** may be informed of the existence of electronic coupon distribution system **10** by a third-party vendor who also maintains a website, and refers that Internet user to website server **18** of main server system **12**. The referral mechanism, a hyperlink or the like to website server **18**, appends the identification of the referring vendor to the HTTP reference (the ID herein referred to as the "cobrand ID"). Website server **18** is configured to recognize and respond to such appended data (the cobrand ID) by putting a "cookie" (i.e., a file used by Internet browser programs) on such Internet user's computer system that contains the cobrand ID. Then, if such potential user of system **10** decides to download and install the client software, the client installation software will search for the "cookie". If it finds the "cookie", and certain other qualifying criteria are satisfied, then the cobrand ID will be passed to server **12** upon installation with a request to download the text or image data of the other (non-default) brand logo.

[**0116**] Some client systems **14** will be deployed with both a default brand logo, and an alternate brand logo (including text/images), in alternative embodiments. The following steps apply when client application **28** determines that it should display an alternate brand logo.

[**0117**] In step **204**, client system **14** requests a brand logo (non-default). The process proceeds to step **206**.

[**0118**] In step **206**, database server **24** determines whether client system **14** provided a date along with the request for the alternate brand logo. If so, then client system **14** already has the text/images corresponding to the brand logo and just needs to determine whether to turn the requested brand logo "on" at the client system **14**.

[**0119**] Thus, if the answer to step **206** is "YES", then the method branches to step **208**. In step **208**, database server **24** conducts a look-up to determine an activation date for the subject brand logo. The method then proceeds to step **210**.

[**0120**] In step **210**, database server **24** determines whether the client-provided date is "older" than the current activation date. If "YES", then the method branches to step **212**, where the new activation date is reported out to the client system **14**. The client system **14** will therefore defer activation of the alternate, non-default brand logo until such new date. Otherwise, the method branches to step **214**, where the database

server **214** reports an "ok" to client system **14**. Client system **14** will then implement (i.e., display) the brand logo corresponding to the cobrand ID.

[**0121**] When the method branches to step **216**, (a "NO" to step **206**), database server **24** performs another test to determine whether client system **14** asked for text corresponding to the cobrand ID. If "YES", then the method branches to step **218**, where the textual information is encrypted according to a server system encryption strategy, and reported out to client system **14**. Otherwise, step **220** is performed, where image data corresponding to the cobrand ID is encrypted (according to a server system encryption strategy), and reported to client system **14**. The method ends in step **222**.

[**0122**] **FIG. 12** shows step **122** ("updating advertising data") of **FIG. 4** in greater detail. In particular, steps **224-232** illustrate, in accordance with the present invention, that advertising text, and images are encrypted to thereby provide secure transmission to client system **14**. It should be understood that for an existing user, client system **14** may be executing a client script that includes a list containing needed advertising impressions. The process outlined in **FIG. 12** would be executed for each advertising impression on the list. Step **224** marks the beginning of the advertising update method.

[**0123**] In step **226**, main server system **12** determines whether the user, more particularly client system **14**, is requesting "text" or "image" advertising data. If the answer is "text", then the method proceeds to step **228**.

[**0124**] In step **228**, main server system **12**, particularly database server **24**, encrypts the text of the advertising data, and reports out the resulting encrypted advertising data. It should be understood this encryption occurs in accordance with a server system encryption strategy.

[**0125**] Otherwise, the method proceeds to step **230** when the advertising data requested is "image" data. In step **230**, the advertising data ("image" data) is encrypted by main server system **12** according to a main server system encryption strategy, resulting in encrypted advertising image data. The encrypted ad image data is then reported out to client system **14**.

[**0126**] Step **232** defines the end of the advertising update process.

[**0127**] **FIG. 13** illustrates, in greater detail, step **124** in **FIG. 4** ("updating coupon data"). It should be understood that for an existing user, client system **14** may be executing a client script that includes a list containing needed coupon data. The process outlined in **FIG. 13** would be executed for each electronic coupon on the list.

[**0128**] Steps **234-244** illustrate that coupon text and image data are encrypted in accordance with a server system encryption strategy prior to transmission to client system **14**, resulting in encrypted coupon data. It bears emphasizing that the steps **234-244** in **FIG. 13**, occur at main server system **12**. Since the coupon data is encrypted, even if intercepted, the actual coupons cannot be easily recovered and reprinted. This reduces the occurrence of fraud.

[**0129**] In step **234**, client system **14** issues a request to get a particular electronic coupon. In step **236**, database server **24** encrypts and reports (to client system **14**) all smaller text and numeric fields. In steps **238** and **240**, database server **24** encrypts and reports, respectively, first and second images associated with the requested electronic coupon. In step **242**, the very fine print portions of the requested e-coupon in encrypted and reported out to client system **14**. Step **244** is an exit step.

[**0130**] **FIG. 14** shows, in greater detail, step **116** of **FIG. 4** ("transmitting to the server system user history information"). Steps **246-264** occur principally on main server system **12**, more particularly, between handler server **22** and database server(s) **24**. Prior to step **246**, client system **14** sends a message to database server **24** containing the user history file **34**. Step **246** marks the beginning of the process used by main server system **12** in recording the events contained in the user history file **34**.

[**0131**] In step **248**, the user and server information is extracted from the user history file **34**. This information is used in updating the user transaction records associated with the identified user of electronic coupon distribution system **10**. The information developed in this process is also used to generate a client script that will be described in further detail.

[**0132**] In step **250**, a test is made to determine whether there is any user and server information in the user history file. If the answer to this inquiry is "NONE", then flow of the process proceeds to step **252** where an indictor "NO GOOD" is reported out. Flow of the process then continues to step **254** where the process exits.

[**0133**] On the other hand, if user and server information is successfully extracted from the user history file, flow of the process continues at step **256**. In step **256**, a "WHILE DO" process structure is established. Method steps **256**, **260**, **262**, and **264** are continuously repeated while there are new history codes remaining to be read-out and extracted from the user history file **34**.

[**0134**] In step **260**, the next history code is extracted along with any arguments pertaining thereto. Flow of the process then proceeds to step **262**, and **264** where the extracted user history codes are decoded. For example, a user history code designated "F" indicates that coupon entries should be synchronized, for this user to the date so provided as the argument (i.e., to the so-called "sync date"). This is shown in block $\mathbf{264}_9$. As another example, a user history code "B", specifies that an advertising impression described in the argument should be recorded in a user transaction record. This is shown in block $\mathbf{264}_{13}$. The ad impression, when recorded, may be used thereafter to prepare reports for the sponsor of the advertising impression. Other user history codes involve modification of a user transaction entry. For example, the code "N" indicates a positive confirmation by client system **14** that certain coupons were downloaded successfully. Accordingly, the user transaction entry should be edited to so indicate. In this way, positive feedback is provided as to what coupons have been safely received at the remote client system **14**. **FIG. 14** specifically identifies thirteen codes, and corresponding responses, respectively designated $\mathbf{264}_1$-$\mathbf{264}_{13}$.

[**0135**] When the last remaining history code has been extracted and decoded, the "WHILE DO" loop at step **256** fails, and flow of the process proceeds to step **258**. In step **258**, the database server **24** reports an "Okay" message to handler **22**. Flow of the process then proceeds to an exit step, designated step **254**.

[0136] Referring now to **FIG. 15**, after the user history codes from the user history file **34** have been extracted and decoded, a "client script" is built by client system **14** based on information (e.g., lists) from handler **22** in cooperation with database server **24**. The client script provides instructions for system **14** to execute.

[0137] In step **266**, client system **14** issues a request to handler **22** to obtain the "user" or "client" script. The client script is then returned to client system **14**. Step **268** show the execution of the client script by client system **14**, which issues the commands shown in the steps **268-290**.

[0138] In step **268**, client system **14** issues commands via handler **22** to database server **24** to create user transaction records for any new plugins, main coupon categories, advertising data, or coupon data received by client system **14** since the last client script was retrieved.

[0139] In step **270**, client system **14** issues commands via handler **22** to database server **24** to check existing user transaction records for any deletions. Any deletions are processed whereby the affected user transaction record will be modified to indicate that the client coupon has been deleted.

[0140] In step **272**, client system **14**, in execution of the client script, issues a command via handler **22** to database server **24** to report all undownloaded plugins. Database server **24**, through handler **22**, returns a message containing a listing of all undownloaded plugins. This list will be processed by client system after the client script has been completed.

[0141] In step **274**, client system **14**, in execution of the client script, issues a command via handler **22** to database server **24** to report all undownloaded advertising impressions. Database server **24** returns a list of all undownloaded ad impressions.

[0142] In step **276**, client system **14**, in execution of the client script, issues a command via handler **22** to database server **24** to report all undeleted coupons.

[0143] In step **278**, client system **14**, in execution of the client script, issues a command via handler **22** to database server **24** to determine whether any of the main coupon categories have been changed. If the answer to this inquiry is "YES", then flow of the process continues at step **280**, wherein the database server **24** reports to client system **14** that a new master category list is needed. Flow then proceeds to step **282**.

[0144] If the answer to the inquiry in step **278** is "NO", then flow of the process proceeds to step **282**. In step **282**, client system **14**, in execution of the client script, issues a command via handler **22** to database server **24** to report all undownloaded electronic coupons. Database server **24** returns a listing of all undownloaded coupons.

[0145] In step **284**, client system **14**, in execution of the client script, issues a command via handler **22** to database server **24** to report the current official software version. Database server **24** returns the latest version number.

[0146] In step **286**, database server **24** is requested to record the current time as the last user login. Flow of the process then continues to step **290**, which marks the end of the client script execution.

[0147] Referring now to **FIGS. 16 and 17**, upon initial execution of client application **28**, a taskbar icon **102** is created, as illustrated in **FIG. 3B**. Referring particularly now to **FIG. 16**, steps **292-298** illustrate the steps that client application **28** performs when the taskbar icon **102** is left double clicked. Step **292** marks the beginning of the process that initiates the display of user interface **62**. Step **292** is performed when it is detected that the user has left-double-clicked on taskbar icon **102**.

[0148] In step **294**, application **28** creates an interface thread, unless interface **62** has already been created by a preexisting interface thread.

[0149] In step **296**, a user interface open dialog message is sent to interface thread by client application **28**. The result of the execution of steps **294**, and **296** results in the display shown in **FIG. 3A**.

[0150] In step **298**, the process that creates interface **62** via an interface thread exits.

[0151] Referring now particularly to **FIG. 17**, in step **300**, main client application **28** determines (via the OS, for example) when taskbar icon **102** has been right double clicked and enters the process of steps **300-308**.

[0152] In step **302**, the "window" in which main user interface **62** would generally be displayed is hidden from the user (i.e., disappears from the display as viewed on display **40** of client system **14**).

[0153] In step **304**, client application **28** sends a user interface-end message to the interface thread portion of client application **28**.

[0154] In step **306**, client application **28** flushes the history (i.e., any unsaved user history actions or events are encrypted and written to the user history file).

[0155] In step **308**, client application **28** shuts down. This removes the application **28** from client system **14**.

[0156] **FIG. 18** illustrates a portion of the timing loops executing on main client application software **28**.

[0157] The flow chart illustrates the operation of three timers: the "load" timer, the "icon" timer, and the "refresh" timer. The steps in **FIG. 18** may hereafter be referred to as the timing loop thread. Step **310** marks the beginning of the processing for evaluating the various timing loops illustrated in **FIG. 18**.

[0158] In step **312**, a decision is made by application **28** as to which timer is being evaluated. If the "load" timer is being evaluated in the timing loop thread illustrated in **FIG. 18**, then flow of the process continues at step **313**. In step **313**, the timing loop thread sends a message to the database thread. In particular, the DB_DOREQUEST is the event the database thread uses to perform the delayed downloading. The client system **14** feeds a DB_DOREQUEST event to the database thread while there are any coupons, plugins, or ad impressions remaining to download. In response to this event, the database thread pops the top download request off the download queue and retrieves that item.

[0159] Flow of the process then proceeds to step **314**, wherein the "load" timer is reset. Flow of the process then proceeds to step **316**, where the timing loop thread exits.

[0160] On the other hand, if the timer being evaluated is the "icon" timer, as determined in step **312**, then flow of the process proceeds to step **318**. In step **318**, the client application **28** rotates taskbar icon **102**. This is done only when there are new coupons or offers available to the user on coupon distribution system **10**. That is, this is the loop that causes the taskbar icon **102** to change display states so as to present a "flashing" effect to alert the user to the availability of new coupons and/or offers. The flow of the process then proceeds through steps **314-316**, wherein the "icon" timer is reset and the timing loop thread is exited.

[0161] Finally, if the timer being evaluated in the timing loop thread is the "refresh" timer, as determined in step **312**, then flow of the process proceeds to step **320**. In step **320**, the timing loop determines whether the coupon database has been created. If the answer is "NO" then the process proceeds through steps **314-316**, where the refresh timer is reset, and the timing loop is exited.

[0162] On the other hand, if the answer to the inquiry in step **320** is "YES", then flow of the process proceeds to step **322**. In step **322**, if a user hasn't opened the user interface window containing interface **62** (**FIG. 3A**), and, the account is a new account, then flow of the process proceeds to step **324**, wherein the "create interface" thread is invoked to create user interface **62** (best shown in **FIG. 3A**). The process then proceeds to step **326**, wherein a user interface open dialog message is sent to the interface thread, which displays the user interface **62** in a window. Flow then proceeds to step **328**. If the answer to the inquiry in step **322** is "NO", then flow of the process also proceeds to step **328**.

[0163] In step **328**, the timing loop determines whether the predetermined, number of hours has passed since the last refresh event. In accordance with the invention, the user may select, as described above, from a number of different refresh intervals (e.g., one-hour, two-hours, etc.). The value of this parameter is what is being tested in step **328**. If the answer to this inquiry is "YES", then the process branches to step **330**, where the echo-request/ping-the-net thread is invoked (**FIG. 6**). If the answer to step **328** is "NO", then the process branches to step **332**.

[0164] In step **332**, the timing loop thread determines whether the present day is a new calendar day. This parameter needs to be tested because some coupons may now be "expired" that were not "expired" on the prior calendar day. If the answer to this inquiry is "YES", then the process branches to step **334**. In step **334**, the timing loop thread determines whether client application **28** has processed the coupon expirations arising because of the new calendar day. If the answer to this inquiry is "YES", then the process branches to steps **336**, and **338**, where expired coupons are deleted from the database (memory), the database is saved (file), and the database is thereafter reloaded into the memory of the client application **28**. The method proceeds to step **340**.

[0165] If the answer to the inquiry in steps **332** or **334** is "NO" then the method branches to step **340**. In step **340**, the timing loop thread determines whether client system **14** is "online". It may make this determination based on the response from the "ping" thread, invoked in step **330**. If the answer to this inquiry is "NO", then the process branches to step **342**. In step **342**, the next timer interval is set to five minutes (i.e., try again in five minutes to see if the user is "online"). According to the invention, application **28** will not force the user to connect to Internet **16** to refresh the client system, but will simply wait a preselected time (e.g., five minutes) and check again to see if the user's connected.

[0166] Otherwise, if the answer to step **340** is "YES", then the process branches to step **344**, in which the next timer interval is set to the user-selected value (i.e., the one hour, two hour, etc. that the user chooses as the selected refresh interval).

[0167] Flow then proceeds from both steps **342** and **344** to step **314** where the "refresh" timer is reset. The process exits in step **316**.

[0168] In **FIG. 19**, steps **346-350** illustrate the response of client application **28** when a user "clicks" or otherwise selects the logo pane **74** of user interface **62** (best shown in **FIG. 3A**). Step **346** marks the beginning of the routine. Step **346** is entered when application **28** (via the OS) detects that the user has "clicked" on or otherwise selected a portion of logo pane **346**.

[0169] In step **348**, the client application **28** invokes an Internet browser registered with the operating system of client system **14** as the default browser and passes thereto a URL. The Internet browser then connects to a website server resource corresponding to the specified URL. This "click" action, therefore, takes the user to the website of the company displayed in the logo pane **74**. Step **350** marks the end of this routine.

[0170] **FIG. 20** shows the response of client application **28** when a user "clicks" on or otherwise selects a portion of advertising pane **72** (best shown in **FIG. 3A**). Step **352** marks the beginning of the routine.

[0171] In step **354**, client application **14** creates a click-through history record indicative of the fact that the user has "clicked" or otherwise selected the advertiser displayed in the advertising pane **72**. This will be included in the user history file **34**, which will thereafter be encrypted and transmitted to main server system **12** for processing.

[0172] In step **356**, the client application **28** launches an Internet browser registered with the operating system of client system **14**, and passes thereto a URL corresponding to the advertiser displayed in advertising pane **72**. When the Internet browser executes, it connects to a website server resource defined by the URL. In-effect, the foregoing actions take the user to the advertiser's website specified in the URL.

[0173] Step **358** marks the end of this routine.

[0174] **FIG. 21** illustrates a response taken by client application **28** when a user "clicks" on or otherwise selects an item appearing in the coupon subcategory list box **68** (best shown in **FIG. 3A**). Step **360** marks the beginning of the process. Step **360** is entered when client application **28** (via the OS) determines that an item in list **68** has been "clicked" on.

[0175] In step **362**, client application **28** determines whether the selection was a "click" or a "double-click". Depending on which of these events occurred, client application **28** will take alternative courses of action. If the action is a single-click, then the method branches to step **364**. In

step **364**, the local coupon database is locked by application **28**. The process proceeds to step **366**.

[**0176**] In step **366**, the selected subcategory item is retrieved from the local database on client system **14**.

[**0177**] In step **368**, the contents of coupon list **70** is reset by application **28** according to the contents of the new subcategory. For example, if the new subcategory pertains to coupons, then the new coupons associated with the new selected subcategory are displayed in coupon list box **70** (best shown in **FIG. 3A**).

[**0178**] In step **370**, client application **28** determines or otherwise selects an advertising impression to be displayed in advertising box **72** in accordance with a predetermined advertising impression selection strategy. In the illustrated embodiment, the selection criteria includes the identity of the selected coupon subcategory.

[**0179**] In step **372**, a test is performed by application **28** to determine whether the newly selected advertising impression is different from the advertising impression currently being displayed. If the answer is "YES", then the process branches to step **374**, where the new advertising impression is displayed in advertising box **72**, and an advertising impression history record is created for inclusion in the user history file **34**. The method proceeds to step **376**, which exits the thread shown in **FIG. 21**. If the answer to step **372** is "NO", however, then the process branches to step **376**, which is an exit step.

[**0180**] If the action evaluated in step **362** is determined to be a "double click", then the process branches to step **378**. "Double clicking" a coupon subcategory is a user request to refresh the contents of that subcategory.

[**0181**] In step **378**, client application **28** creates a refresh history event for that subcategory.

[**0182**] In step **380**, client application **28** sends to the database thread a request to flush the current history. The contents of that subcategory are then downloaded (available on the display **40**) as if they were new.

[**0183**] In step **382**, a message is sent to the database thread to do idle processing.

[**0184**] **FIG. 22** illustrates the response by client application **28** when a user "clicks" on an item from coupon list box **70**.

[**0185**] The process begins in step **384**. Step **384** is entered when client application **28** detects that an item in the coupon list box **70** (VIA the OS) has been "clicked" on.

[**0186**] In step **386**, client application **28** locks the local coupon database for the interface thread.

[**0187**] In step **388**, client application **28** obtains from the local coupon database the item corresponding to that selected in coupon list box **70**.

[**0188**] In step **390**, client application **28** determines whether the item in the coupon list box **70** that was clicked on was actually "selected". If the answer to this inquiry is "NO", then the method branches to step **392**, which is an exit.

[**0189**] If the answer to step **390** is "YES", then the process branches to step **394**.

[**0190**] In step **394**, the client application **28** sets the shown coupon to correspond to the item selected in coupon list box **70**. The process then proceeds to step **396**.

[**0191**] In step **396**, client application, by way of the interface thread, displays the coupon in the coupon display pane **76**. The method then proceeds to step **392**, which is an exit step.

[**0192**] **FIG. 23** illustrates the process carried out by client application **28** when the "Print Cart" button **78** is "clicked" on or otherwise selected by the user. Step **398** is invoked when client application **28** (VIA the OS) determines that the Print Cart button has been "clicked" on. The process then proceeds to step **400**.

[**0193**] In step **400**, client application **28** performs a test to determine whether there is a coupon currently displayed in coupon display pane **76**. If the answer to step **400** is "NO", then the method branches to step **414**, which is an exit step.

[**0194**] If the answer to step **400** is "YES", then the method branches to step **402**. In step **402**, client application determines whether the coupon currently being displayed in display pane **76** is already in the print queue. If the answer to this inquiry is "YES", then the method branches to step **404**. In step **404**, client application **28** causes a predetermined message to be displayed in message display area **94** advising, for example, the user that the coupon is already in the print queue ready for printing. This insures that coupons are not inadvertently printed more times than the user desires. If the user in-fact wishes to make multiple hard copies of the coupon in the display pane **76**, the user may alternatively click on the "Print Now" button to print more than one hard-copy version of the coupon (if permitted by the rules or instructions associated with the coupon). The process then proceeds to step **414**, which is an exit step.

[**0195**] If the answer to step **402** is "NO", then the method branches to step **406**. In step **406**, client application determines whether the proposed printing of the coupon would exceed the associated maximum print count for that coupon. If the answer to this step is "YES", then the method branches to step **408**. In step **408**, an appropriate message is displayed to the user in the message display area **94**, advising that no further printouts of the coupon can be made. The method then proceeds to step **414**, which is an exit step.

[**0196**] If the answer to step **406** is "NO", then the method branches to step **410**. In step **410**, the coupon currently being displayed in coupon display area **76** is added to the print queue. The method proceeds to step **412**, wherein message display area **94** is cleared, thereby clearing any pre-existing message displayed therein. The process then proceeds to step **414**, which is an exit step.

[**0197**] It is to be understood that the above description is merely exemplary rather than limiting in nature, the invention being limited only by the appended claims. Various modifications and changes may be made thereto by one of ordinary skill in the art which embody the principles of the invention and fall within the spirit and scope thereof.

What is claimed is:

1. A method of operating an electronic coupon distribution system comprising the steps of:

collecting user information from a user of a client system indicative of one or more demographic characteristics

of the user without obtaining information sufficient to specifically identify the user;

associating a user ID with the user information at a main server system;

selecting coupons according to the user ID to thereby identify coupons appropriate for the user based on the user's demographic characteristics; and,

transmitting the selected coupons from the main server system to the client system.

2. The method of claim 1 wherein said collecting step comprises the substep of:

obtaining from the remote user demographic characteristics including at least one of a postal zip code-associated with the user and a state in which the user resides.

3. The method of claim 1 further including the step of: associating the user ID with the remote client system.

4. The method of claim 3 further including the step of:

generating a printed version of one of the transmitted coupons at the remote client system that includes the user ID.

5. The method of claim 3 further including the step of: transmitting a request from the client system to the server system to perform said selecting step wherein the request includes the user ID.

6. The method of claim 5 wherein said request transmitting step includes the substep of:

automatically including the user ID in the request without any intervention by the remote user of the client system.

7. The method of claim 5 wherein said request transmitting step occurs automatically without any intervention by the remote user.

8. The method of claim 7 wherein said request transmitting step occurs at predetermined intervals.

9. The method of claim 3 wherein the remote client system operates in accordance with an operating system characterized by a graphical user interface (GUI), said method further including the steps of:

displaying an icon visible to the user in a first display state; and,

displaying the icon in a second display state different from the first display state when new coupon are available for the user.

10. The method of claim 9 wherein the second display state is a flashing display state.

11. The method of claim 3 wherein said transmitting step includes the substeps of:

encrypting coupon data corresponding to the selected coupons at the server system in accordance with a server system encryption strategy; and,

sending the server-encrypted coupon data to the client system.

12. The method of claim 11 further including the step of:

receiving the server-encrypted coupon data at the client system;

encrypting the server-encrypted coupon data in accordance with a client system encryption strategy to thereby generate doubly-encrypted coupon data; and,

storing the doubly-encrypted coupon data on the client system.

13. The method of claim 12 further including the steps of:

decrypting the doubly-encrypted coupon data at the client system; and,

generating a printed version of one of the selected coupons at the remote client system.

14. The method of claim 3 further comprising the steps of:

transmitting advertising data to the client system; and,

displaying at least a portion of the transmitted advertising data on a display portion of the remote client system.

15. The method of claim 14 wherein the advertising data comprises a plurality of advertising impressions, and, wherein said displaying step comprises the substep of:

selecting one of the plurality of advertising impressions as a function of a selected subcategory of coupons available on the remote client system.

16. The method of claim 3 further comprising the steps of:

detecting events occurring at the remote client system;

storing the detected events in a user history file; and,

transmitting the user history file to the server system.

17. The method of claim 16 wherein said detecting step includes the substeps of:

determining when one of the plurality of advertising impressions has been displayed on a display portion of the remote client system; and,

determining a sponsor identification of the advertising impression.

18. The method of claim 16 wherein the storing step comprises the substep of:

encrypting the detected events to thereby generate encrypted user event information; and,

writing the encrypted user event information to the client system.

19. A coupon distribution system, comprising:

means for collecting user information from a user of a remote client system indicative of one or more demographic characteristics of the user without obtaining information sufficient to specifically identify the user;

means for associating a user ID with the user information at a main server system;

means for selecting coupons according to the user ID to thereby identify coupons appropriate for the user based on the user's demographic characteristics; and,

means for transmitting the selected coupons from the server system to the client system.

20. The system of claim 19 wherein said collecting means includes means for obtaining from the remote user demographic characteristics including at least one of a postal zip code associated with the user and a state in which the user resides.

21. The system of claim 20 further including means for associating the user ID with the remote client system.

22. A method of secure electronic coupon distribution comprising the steps of:

collecting user information from a user of a client system;

associating a user ID with the user information;

selecting coupons according to the user ID;

encrypting coupon data corresponding to the selected coupons; and,

transmitting the encrypted coupon data from the main server system to the client system.

23. The method of claim 22 further including the step of:

decrypting the encrypted coupon data to recover the selected coupons.

24. A method of secure electronic coupon distribution comprising the steps of:

associating a Uniform Resource Locator (URL) including a promotional code with a coupon;

displaying the coupon to a user;

disabling access to the URL by the user; and,

invoking the URL with a browser to thereby enable the user to redeem the coupon.

25. The method of claim 24 wherein said invoking step includes the substep of selecting the coupon by one of clicking on the displayed coupon and clicking on an object different than the coupon displayed to the user.

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