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Shahine et al.

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(54) **COMPUTING SYSTEM FOR MONETIZING CALENDAR APPLICATIONS**

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G05B 19/418 (2006.01)

(52) **U.S. Cl.**
USPC **705/14.5**; 705/14.4

(58) **Field of Classification Search**
USPC 705/14
See application file for complete search history.

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(74) *Attorney, Agent, or Firm* — Tom Wong; Jim Ross; Micky Minhas

(57) **ABSTRACT**

A method is disclosed for advertisers to target specific calendar users with the advertisers' events. When uploading information for an advertisement to a service provider system, the advertiser provides targeting criteria along with advertisement content. The targeting criteria is compared against user data stored about the user within one or more databases in the service provider system to select targeted recipients that meet the targeting criteria. The advertised events are then downloaded for display along side a users' calendar interface, where users may quickly and easily add the event to their calendars.

19 Claims, 8 Drawing Sheets

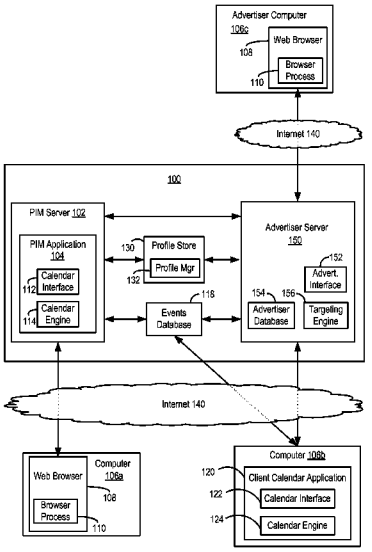

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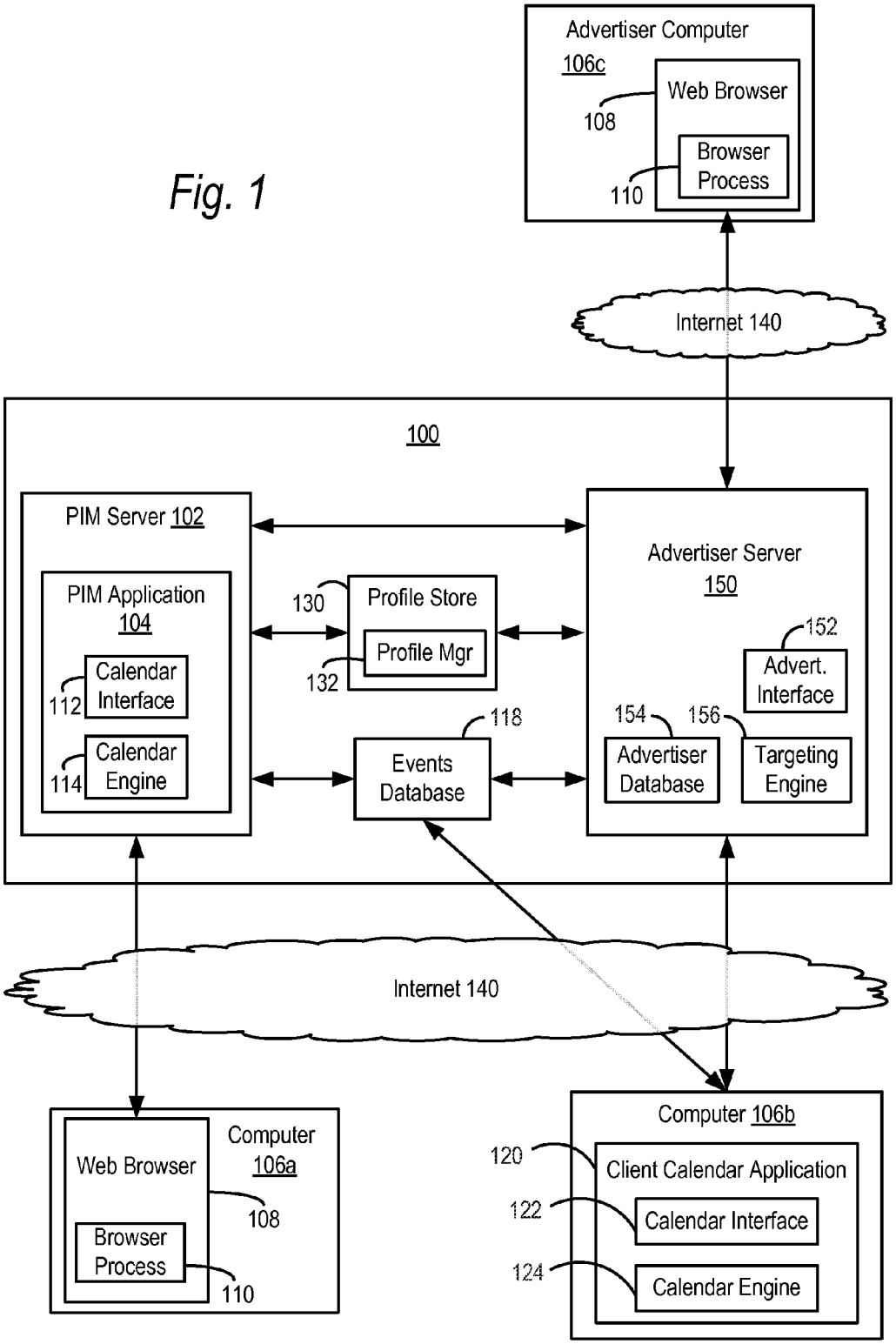
Fig. 1


Advertiser Computer
106c
Web Browser
108
Browser Process
110
Internet 140
100
PIM Server 102
PIM Application 104
Calendar Interface
112
Calendar Engine
114
130
Profile Store
Profile Mgr
132
Advertiser Server 150
152
Advert. Interface
154
Advertiser Database
156
Targeting Engine
118
Events Database
Internet 140
Web Browser
Computer 106a
108
Browser Process
110
Computer 106b
120
Client Calendar Application
122
Calendar Interface
124
Calendar Engine

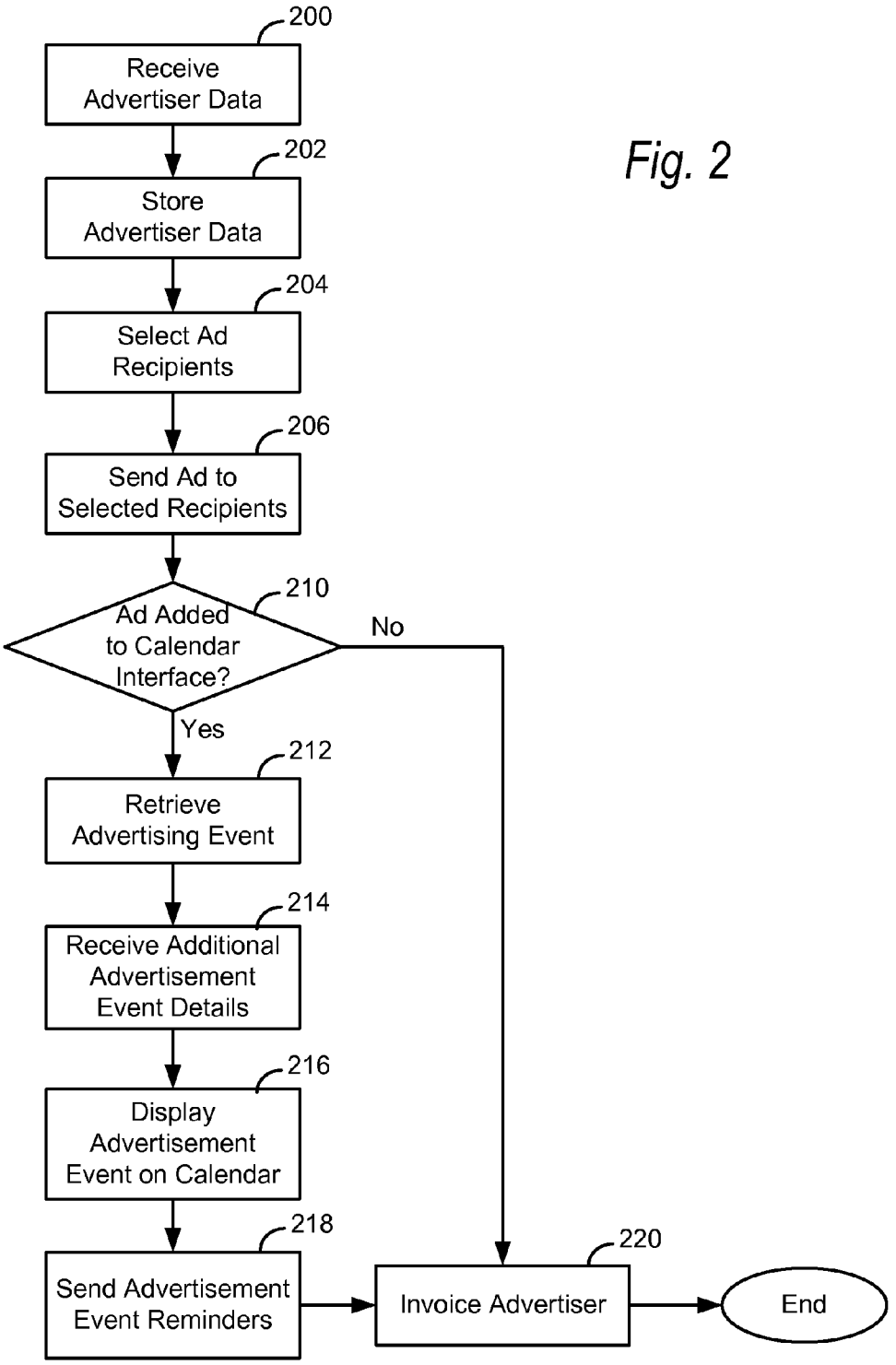

200
Receive Advertiser Data
202
Store Advertiser Data
204
Select Ad Recipients
206
Send Ad to Selected Recipients
210
Ad Added to Calendar Interface?
No
Yes
212
Retrieve Advertising Event
214
Receive Additional Advertisement Event Details
216
Display Advertisement Event on Calendar
218
Send Advertisement Event Reminders
220
Invoice Advertiser
End

Fig. 2

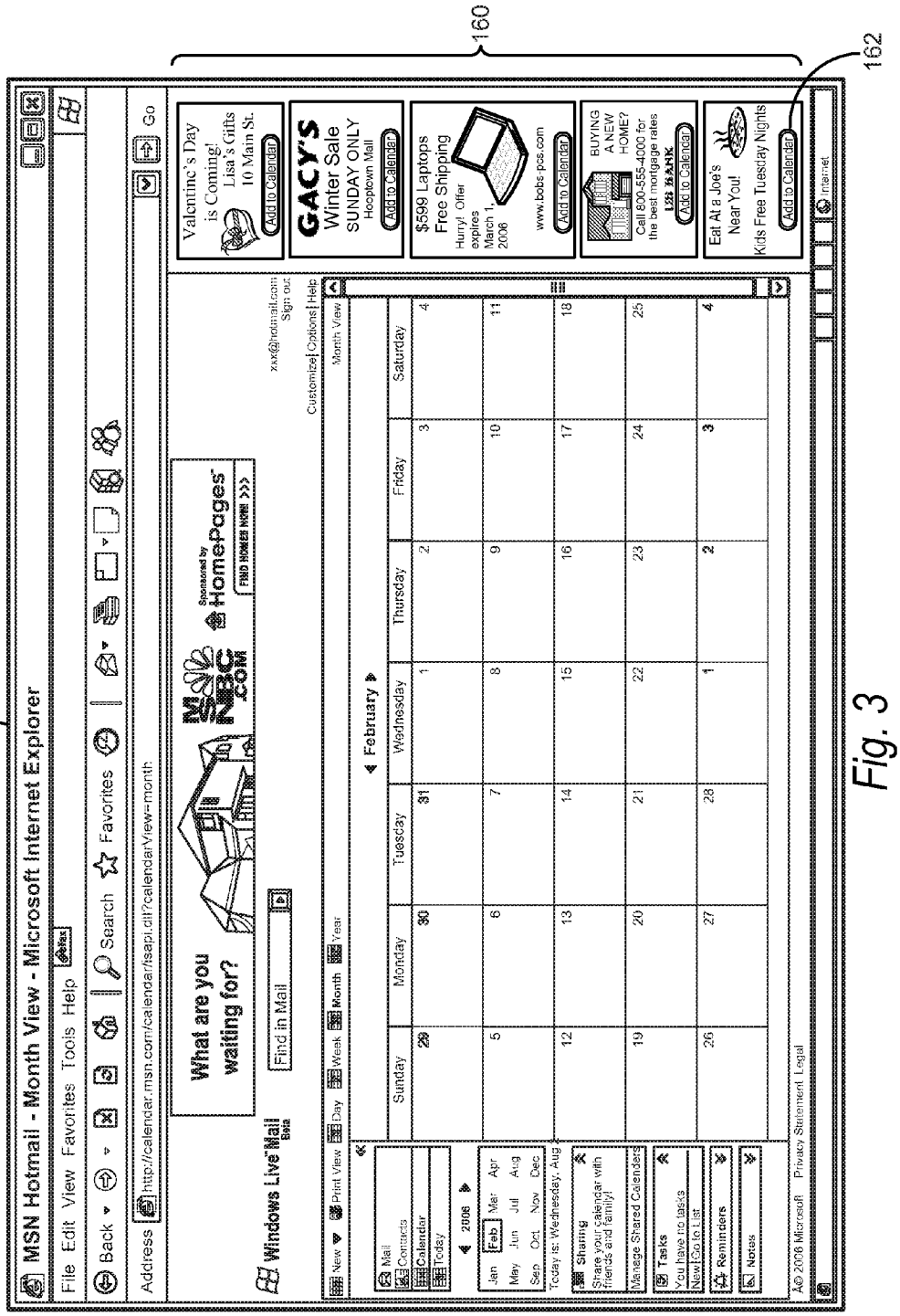

112/122
160
162
MSN Hotmail - Month View - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://calendar.msn.com/calendar/isapi.dll?calendarView=month
Go
Valentine's Day is Coming! Lisa's Gifts 10 Main St.
Add to Calendar
GACY'S Winter Sale SUNDAY ONLY Hooptown Mall
Add to Calendar
$599 Laptops Free Shipping
Hurry! Offer expires March 1, 2006
www.bobs-pcs.com
Add to Calendar
BUYING A NEW HOME?
Call 800-555-4000 for the best mortgage rates
Add to Calendar
Eat At a Joe's Near You!
Kids Free Tuesday Nights
Add to Calendar
What are you waiting for?
Windows Live Mail
Find in Mail
Sponsored by HomePages
FIND HOMES NOW
xxx@hotmail.com Sign out
Customize | Options | Help
New Print View Day Week Month Year
Month View
February
Sunday Monday Tuesday Wednesday Thursday Friday Saturday
Mail
Contacts
Calendar
Today
2006
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Today is: Wednesday, Aug
Sharing
Share your calendar with friends and family!
Manage Shared Calendars
Tasks
You have no tasks
New | Go to List
Reminders
Notes
© 2006 Microsoft Privacy Statement Legal
Internet

Fig. 3

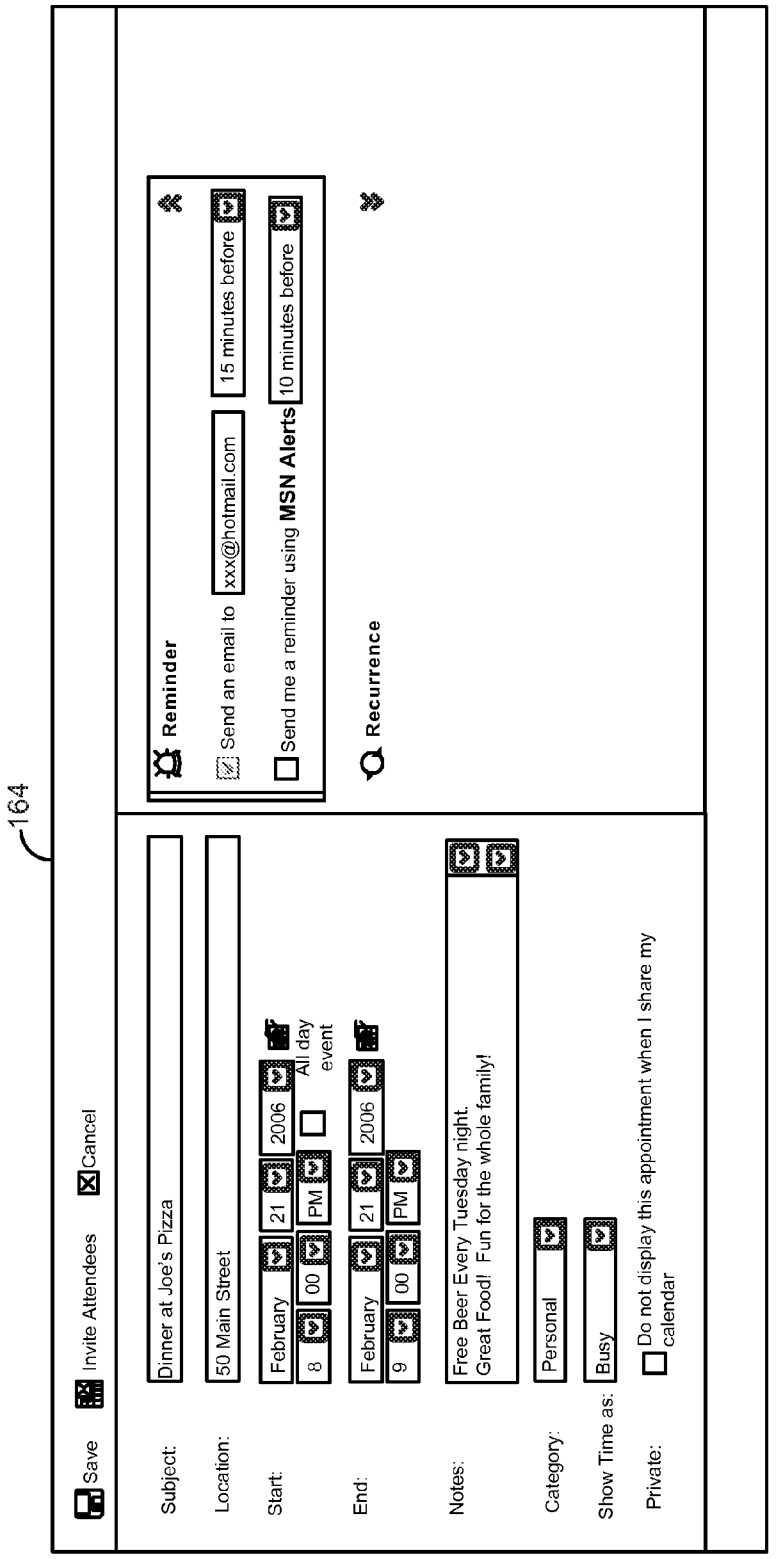

164
Save
Invite Attendees
Cancel
Subject:
Dinner at Joe's Pizza
Location:
50 Main Street
Start:
February
21
2006
8
00
PM
All day event
End:
February
21
2006
9
00
PM
Notes:
Free Beer Every Tuesday night.
Great Food! Fun for the whole family!
Category:
Personal
Show Time as:
Busy
Private:
Do not display this appointment when I share my calendar
Reminder
Send an email to
xxx@hotmail.com
15 minutes before
Send me a reminder using MSN Alerts
10 minutes before
Recurrence

Fig. 4

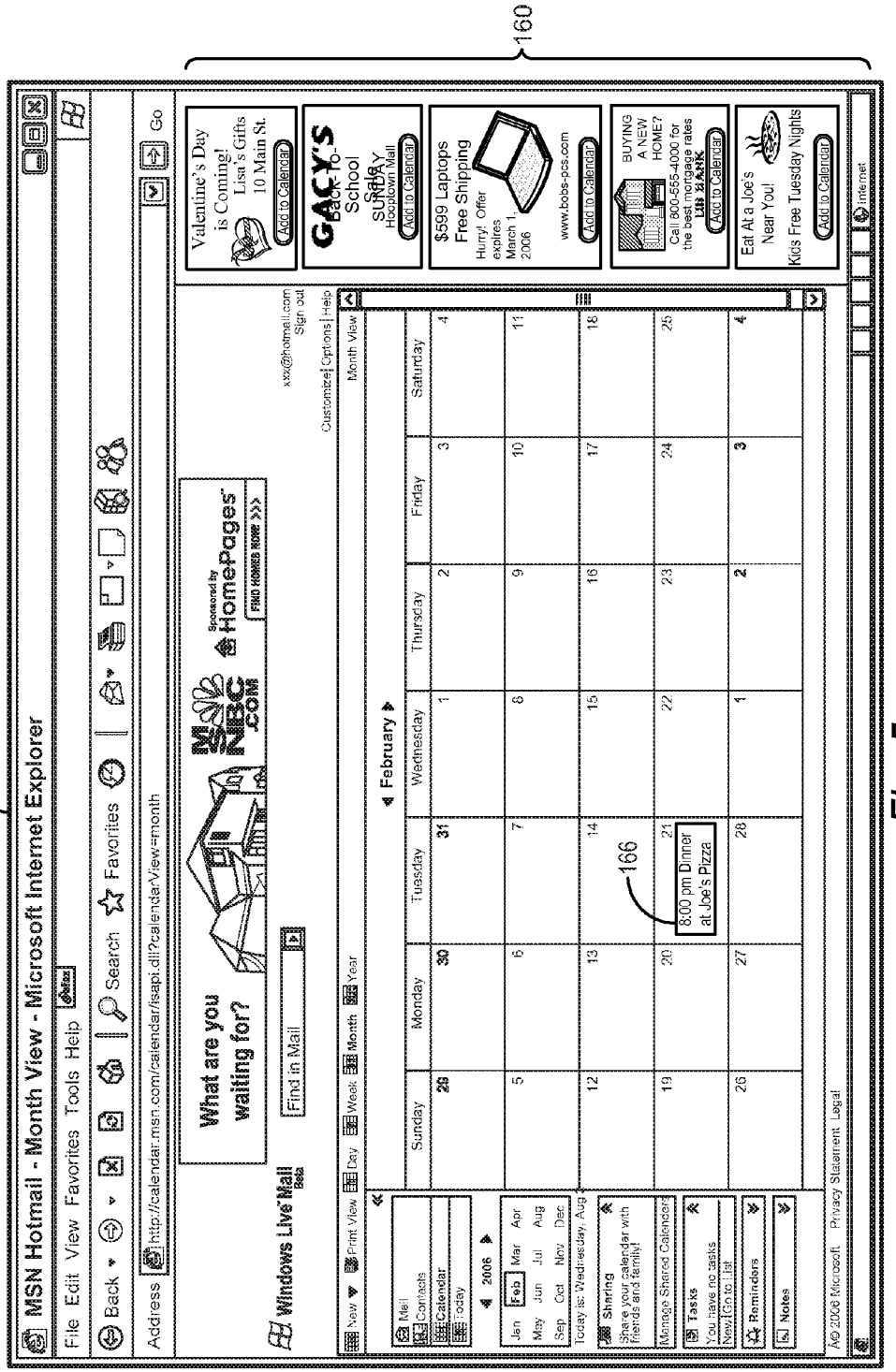

112/122
160
166
MSN Hotmail - Month View - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
http://calendar.msn.com/calendar/isapi.dll?calendarView=month
Go
What are you waiting for?
Find in Mail
Windows Live Mail
Sponsored by HomePages
FIND HOMES NOW
xxx@hotmail.com
Sign out
Customize | Options | Help
Month View
New
Print View
Day
Week
Month
Year
February
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
8:00 pm Dinner at Joe's Pizza
Mail
Contacts
Calendar
Today
2006
Jan Feb Mar Apr
May Jun Jul Aug
Sep Oct Nov Dec
Today is: Wednesday, Aug
Sharing
Share your calendar with friends and family!
Manage Shared Calendars
Tasks
You have no tasks
New | Go to List
Reminders
Notes
Valentine's Day is Coming!
Lisa's Gifts
10 Main St.
Add to Calendar
GACY'S
Back-To-School
SUNDAY
Hooptown Mall
Add to Calendar
$599 Laptops
Free Shipping
Hurry! Offer expires March 1, 2006
www.bobs-pcs.com
Add to Calendar
BUYING A NEW HOME?
Call 800-555-4000 for the best mortgage rates
Add to Calendar
Eat At a Joe's Near You!
Kids Free Tuesday Nights
Add to Calendar
Internet
© 2006 Microsoft Privacy Statement Legal

Fig. 5

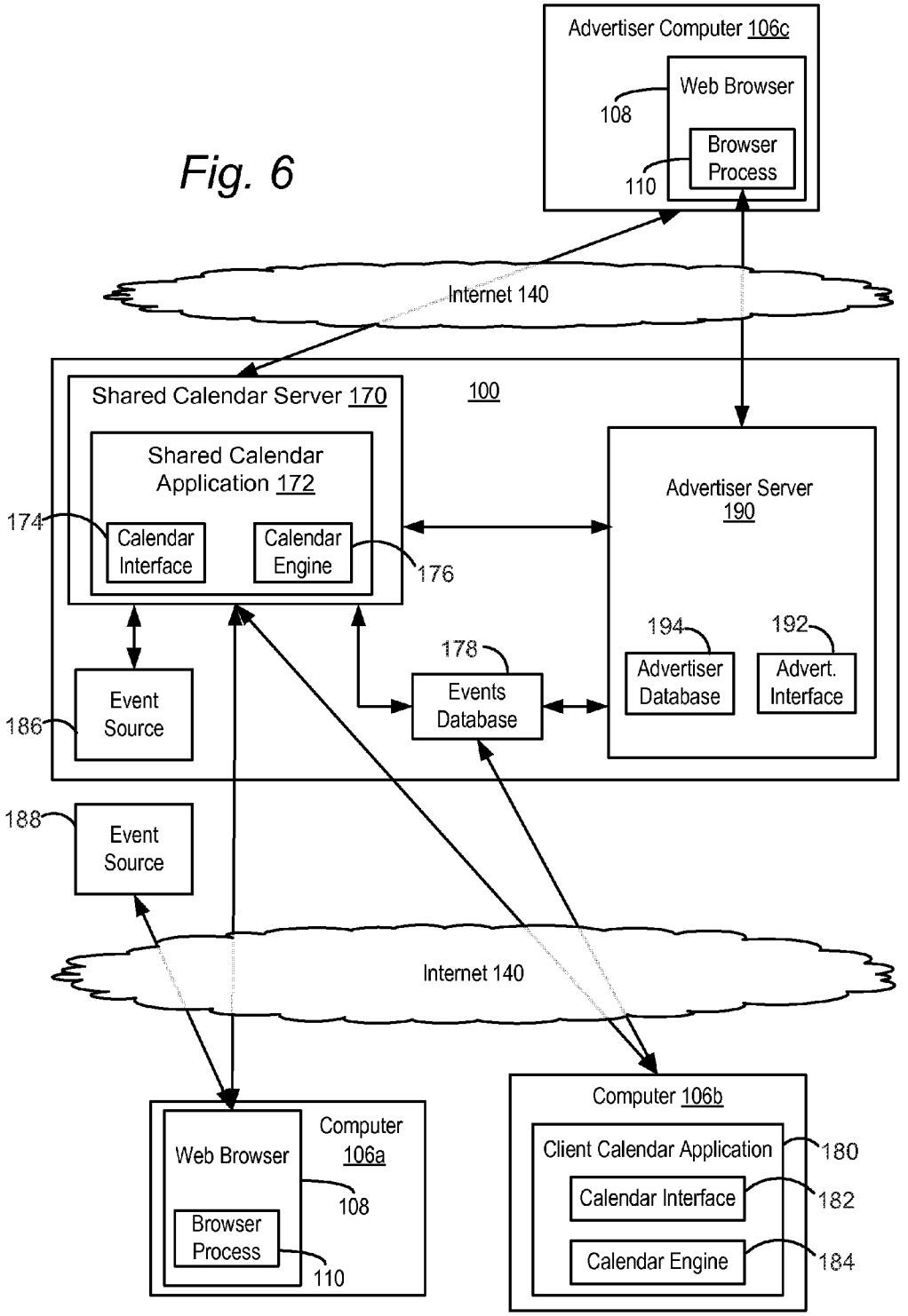


Fig. 6
Advertiser Computer 106c
Web Browser
108
Browser Process
110
Internet 140
Shared Calendar Server 170
100
Shared Calendar Application 172
174
Calendar Interface
Calendar Engine
176
Advertiser Server 190
194
192
Advertiser Database
Advert. Interface
178
Events Database
Event Source
186
188
Event Source
Internet 140
Computer 106a
Web Browser
108
Browser Process
110
Computer 106b
Client Calendar Application
180
Calendar Interface
182
Calendar Engine
184

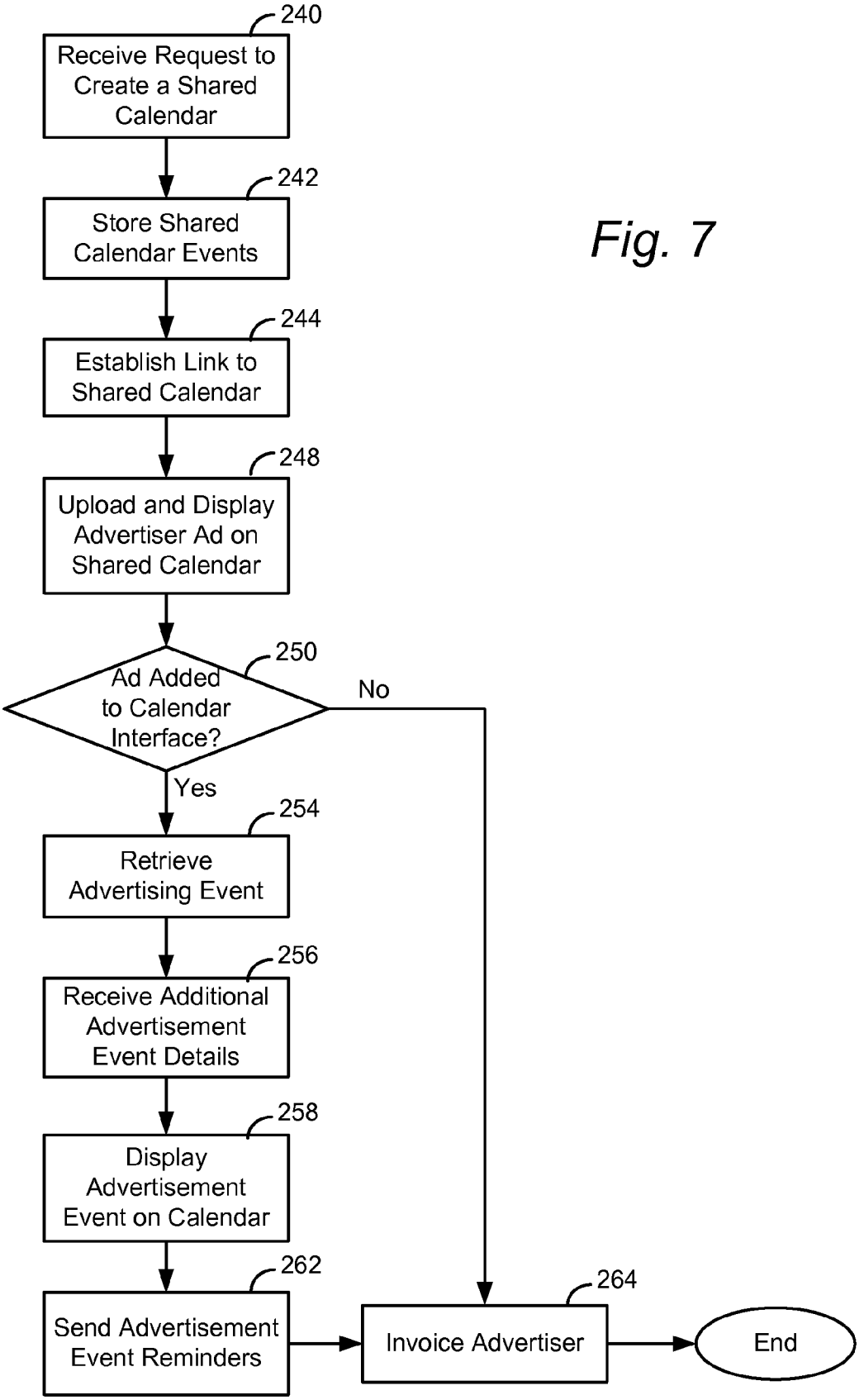

240
Receive Request to Create a Shared Calendar
242
Store Shared Calendar Events
244
Establish Link to Shared Calendar
248
Upload and Display Advertiser Ad on Shared Calendar
250
Ad Added to Calendar Interface?
No
Yes
254
Retrieve Advertising Event
256
Receive Additional Advertisement Event Details
258
Display Advertisement Event on Calendar
262
Send Advertisement Event Reminders
264
Invoice Advertiser
End

Fig. 7

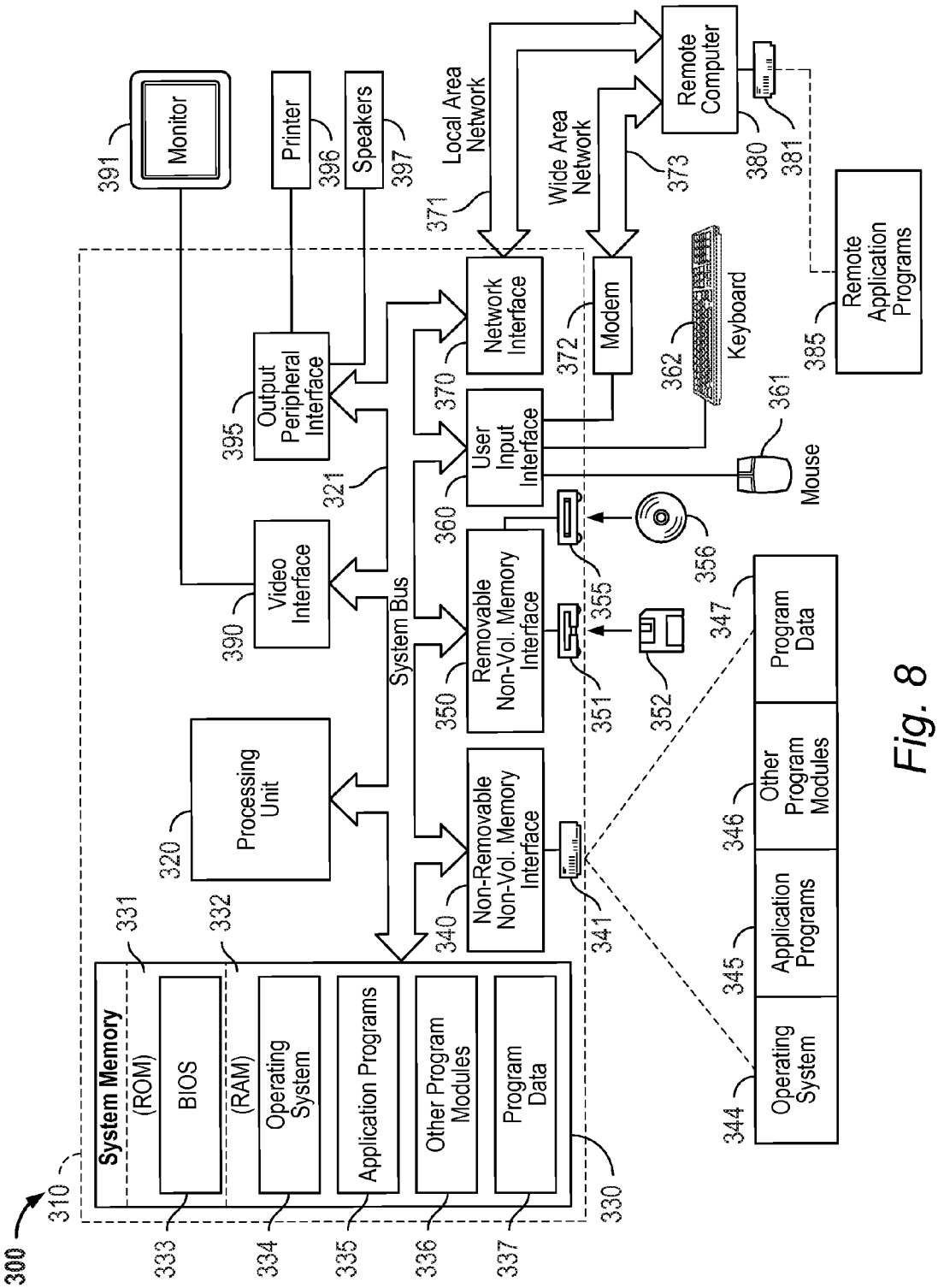

300
310
System Memory
(ROM)
BIOS
(RAM)
Operating System
Application Programs
Other Program Modules
Program Data
331
332
333
334
335
336
337
330
Processing Unit
320
Video Interface
390
Output Peripheral Interface
395
321
System Bus
Monitor
391
Printer
396
Speakers
397
Non-Removable Non-Vol. Memory Interface
340
Removable Non-Vol. Memory Interface
350
User Input Interface
360
Network Interface
370
Modem
372
Local Area Network
371
Wide Area Network
373
Remote Computer
380
381
Remote Application Programs
385
Keyboard
362
Mouse
361
341
351
352
355
356
Operating System
344
Application Programs
345
Other Program Modules
346
Program Data
347

Fig. 8

COMPUTING SYSTEM FOR MONETIZING CALENDAR APPLICATIONS

BACKGROUND

Software application programs commonly referred to as personal information managers, or PIMs, have become extremely popular as a tool for organizing, tracking and managing personal information. One aspect of a PIM is a calendar application program which provides a user interface including a graphical representation of a calendar (generally user configurable to display a day, week, month, etc.). Using the calendar interface, a user may record appointments, events and other information. Calendar application programs also provide automatic notifications and reminders about specific tasks and upcoming appointments and events. Calendar application programs typically communicate and exchange information with other PIM application programs, such as for example email and contact application programs, as well as other data stores.

A calendar interface provided by a calendar application program may be private or shared. Private calendars are accessible by authorized user(s) upon entry of the proper login credentials, and may store a user's personal appointments, events and other personal information. Private calendar application programs may either be stored locally on a client device, or centrally within a host server accessible via a network such as the Internet. Owners of private calendars can also set them up to be shared with others, but as used herein, these are still considered private calendars as permission of the owner is required before it may be accessed. Shared calendars may store events and other public information, and are accessible to all users without any one user having to grant permission for their use. Shared calendar application programs are typically stored centrally within a host server accessible via a network such as the Internet.

Calendar application programs have traditionally not included targeted ad placement. Current ad word and other advertising models have instead targeted content based interactive services. A good example is a web-hosted search engine, where advertisers bid on keywords, and have their advertisements displayed to a user when the user enters those keywords in a search query. In such models, advertisers typically pay the website host based on the number of times their ad is clicked. Advertisers are also purchasing keywords in other content based interactive services, such as for example in email application programs and Instant Messaging (IM) application programs. As in the search engine ad model, advertisers bid on keywords, and have their advertisements displayed to a user when those keywords are used in an email or message from the user.

By contrast, keyword ad models would work poorly with web-hosted calendar application programs, as the events that are added to calendars seldom convey information that would be valuable to advertisers in targeting consumers. Thus, while it is known to include ads on a calendar interface, these ads are not targeted, and as such, provide less value to advertisers.

SUMMARY

The present technology, roughly described, relates to a method for advertisers to target specific calendar users with the advertisers' events. The advertised events appear along side a users' calendar interface, where users may quickly and easily add the event to their calendars. The method may be implemented at least in part by an enterprise service provider system including a server such as a PIM server. In one embodiment, the server runs a suite of PIM application programs including a calendar application program. The calendar application program may include a calendar engine for carrying out the tasks of the calendar application program, and a calendar user interface display for allowing user interaction with the calendar application program.

The service provider system may further include an events database for storing event objects generated by the calendar application program for a plurality of users. When a user enters an event via the calendar interface, the calendar engine generates an event object containing data regarding the entered event, and stores the event object within the event database. Similarly, when a user accesses an event displayed on the calendar interface to view the event details, the calendar engine retrieves the event object from event database.

The service provider system may further include an advertiser server for receiving advertising content and targeting data from advertisers. A targeting engine within the advertiser server is responsible for selecting recipients of an ad based on the targeting data and user information stored in a profile store also included on the service provider system. The targeting data may be in a form allowing the engine to compare the targeting data against the user information in the profile store to identify the users that meet the targeting data criteria. The ad is then downloaded and displayed along side the calendar interface to those users identified as matches by the targeting engine.

In operation, once an ad is provided on a user's display, the user may insert the ad as an event into his or her calendar interface, whereupon it gets stored in the events database for that user. The user may thereafter view the stored advertising event and receive reminders for the event. In this way, the present system provides a valuable method for advertisers to target users with events which may be quickly and easily added to the users' calendar. This ability is potentially more valuable than traditional ad word models and may be priced by service providers accordingly. The present system provides a further benefit to service providers in that it creates an additional revenue generating advertising solution for existing advertising customers.

In a further embodiment, the present system allows advertisers to add their advertisements to shared calendars. When a shared calendar is created for a given category, the shared calendar may be populated with events from a plurality of different users and from a wide variety of event sources. Advertisers in this embodiment do not directly target specific users. Instead, advertisers target different categories of shared calendars. If there is a shared calendar for a category that relates to an advertiser's business or interests, the advertiser may choose to provide a targeted ad on that shared calendar. As a calendar for a particular category gets more and more users involved, it becomes more interesting to advertisers as they may then reach a greater number of users with their advertisement.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** illustrates a block diagram of an embodiment of a system for providing advertising in a social calendar according to the present system.

FIG. **2** is a flowchart showing the operation of an embodiment of the present system shown in FIG. **1**.

FIG. **3** is an illustration of a calendar interface including targeted ads according to an embodiment of the present system.

FIG. **4** is an illustration of a further calendar interface according to an embodiment of the present system.

FIG. **5** is an illustration of a calendar interface including an ad added to the calendar interface according to an embodiment of the present system.

FIG. **6** illustrates a block diagram of an alternative embodiment of a system for providing advertising in a social calendar according to the present system.

FIG. **7** is a flowchart showing the operation of an embodiment of the present system shown in FIG. **6**.

FIG. **8** illustrates a block diagram of an embodiment of a computing environment for implementing the present technology.

DETAILED DESCRIPTION

The present system is explained hereinafter with reference to FIGS. **1** through **8**, which in general relate to a computer implemented system for monetizing the use of calendar application programs. In embodiments, the present system relates to a method for advertisers to target specific calendar users with the advertisers' events. The events appear along side users' calendar interface, where users may quickly and easily add the advertisement to their calendars. Such a system is potentially more valuable than the ad word advertising model used in search engines and the like. The ad word model may lead to a click and investigation of an ad. However, unless a user follows up immediately to purchase the advertised goods or services, the advertising opportunity is often lost. As time goes on, the user moves on to other things and the likelihood of the user returning to advertised goods or services falls off dramatically. However, by presenting users with an advertised event targeted specifically to them, while at the same time making it easy to add and save that event directly into their personal calendar, it is more likely that the ad will be recorded and not forgotten. Once an advertised event is included in the user's calendar, the user is reminded of the advertised event when viewing their calendars and through automatic reminders which may be set up in conventional calendar application programs. Such an advertising model is potentially more valuable than ad word models, and could be priced by service providers accordingly.

Referring initially to the block diagram of FIG. **1**, there is shown an embodiment of a service provider system **100** which may be operated by an enterprise service provider such as MSN®, Yahoo®, AOL®, or other online service provider. The service provider system **100** may support different application interfaces allowing networked communication. For example, where service provider system **100** is that of the MSN® network, the system **100** may support a PIM application program such as Windows Live™ Mail, as well as an instant messaging application program such as MSN Messenger.

System **100** is comprised of a plurality of computing devices maintained by the enterprise service provider. In one embodiment, system **100** may include a PIM server **102** running a suite of PIM application programs **104** including a calendar application program. In embodiments, instead of a PIM server supporting a suite of PIM application programs, service provider system **100** may alternatively or additionally include a server dedicated solely to supporting a calendar application program. PIM server **102** may include a web server communicating with a computing device **106***a* via a web browser **108** on a computing device **106***a*. Communications between PIM server **102** and computing device **106***a* may take place over a network such as the Internet **140**, but other networks are contemplated. The web browser **108** runs a browser process **110** on the user computing device **106***a* enabling computing device **106***a* to download and display web pages from PIM server **102**, and to interact with PIM server **102**.

While only computing devices **106***a* and **106***b* (described hereinafter) are shown, it is understood that any number of such devices **106***a* and **106***b* may be used to interact with system **100**. In embodiments, computing devices **106***a* and **106***b* may be a variety of computing system environments including for example a desktop personal computer, a laptop, a handheld computer, a personal digital assistant (PDA), a cellular telephone, multiprocessor systems, microprocessor-based systems, programmable consumer electronics, minicomputers, distributed computing environments that include any of the above systems or devices, and the like. Further details of such computing system environments are explained hereinafter with respect to FIG. **8**.

The calendar application program on PIM server **102** may include a user interface **112**, presented via the web browser **108** on the display of computing device **106***a*, and a calendar engine **114**. The user interface **112** may be presented as web pages that allow a user to interact with the calendar application program. For example, the user interface allows a user to input event information, and for the calendar application program to present stored event information to the user. An example of the user interface is explained hereinafter with respect to FIGS. **3** through **5**.

The calendar engine **114** receives user input from, and presents user output to, the user interface **112**. The calendar engine **114** may be a software module that performs all necessary tasks for user interaction with the computerized calendar, such as for example authenticating users, storing and retrieving event information, generating schedule conflict information, generating reminders, performing file system tasks, etc.

The service provider system **100** may further include an events database **118** for storing event objects generated by the calendar application program for a plurality of users. In particular, when a user enters an event via calendar interface **112**, the calendar engine **114** generates an event object containing data regarding the entered event, and stores the event object within event database **118**. Similarly, when a user accesses an event displayed on the calendar interface **112** to view the event details, the calendar engine **114** retrieves the event object from event database **118**. A user's event objects stored in database **118** may be accessed and viewed only by that user and any others that have been granted viewing permission by the user.

The events database **118** may include additional information, such as for example calendar parameters configured by the user, and other data used to configure or populate a calendar interface or otherwise associated with the user. Database **118** may alternatively be resident within computing device **106***a*, or elsewhere outside of service provider system **100** in alternative embodiments.

The above-described embodiments of the present system operate with a web-hosted calendar application program. The calendar application program may alternatively be stored locally on a user's client device **106***b*. Client computing device **106***b* may be similar to computing device **106***a*, but may include a client calendar application program **120** (as part of a larger PIM application program or otherwise) capable of direct interaction with service provider system **100**.

As is known, calendar application program **120** on device **106***b* may include a calendar interface **122** and a calendar engine **124** operating as explained above. The calendar engine **124** may transfer event objects to and from an events

database, which may be stored locally on computing device **106***b*, within events database **118** in service provider **100**, or elsewhere.

Service provider system **100** may further include a profile store **130** of user information. Upon enrolling with the enterprise service provider, a user sets up a profile of user information, via a profile manager **132**. The type of user information which may be stored on profile store **130** is known, but may include for example:

Logon and authentication information;

Contact information—residence and work addresses, telephone numbers, email addresses, websites;

General—photo, name, age, occupation, interests;

Professional—business contacts, job information, resume;

Social—social contacts, relationships, interests, pets, religion, ethnicity, politics;

Dating—physical characteristics, likes, dislikes;

Gaming—Xbox® gamertag, owned games, favorites;

Education—schools, colleges, degrees.

The above information is by way of example, and profile store may include additional or alternative information about users. Profiles may be generated and edited via profile manager **132**. The profile manager may include a web server which, when accessed by a user, presents the user with a web interface allowing the user to input and then save the information for their profile. The profile manager need not be a web server, and may be accessed by clients other than a web browser, in alternative embodiments. For example, the computer **106***b* may communicate directly with the profile store **130** in embodiments of the present system.

The service provider system **100** may further include an advertiser server **150** for receiving advertising content and targeting data from advertisers via a computing device **106***c*. Computing device **106***c* may be the same as or similar to computing devices **106***a* or **106***b* described above. Advertiser server **150** may include a web server for presenting a user interface **152** to an advertiser over a web page presented by browser **108** on a display of computing device **106***c*. Interface **152** allows an advertiser to upload an advertisement including textual and/or graphical data, which data is then stored in an advertiser database **154** associated with advertiser server **150**. The database **154** may be stored outside of service provider system **100** in alternative embodiments of the present system.

The interface **152** may also accept targeting data from the advertiser, which targeting data is also stored within database **154**. The targeting data determines which users of the calendar application program will be targeted by the advertiser. The targeting data may target users according to a wide variety of criteria. For example, the targeting data may specify that the ad be sent to users residing within a given radius of a store. The targeting data may for example specify that the ad be sent only to users in a given age group, or of a given gender, nationality, religion, etc. The targeting data may for example specify that the ad only be sent to users who have listed certain interests in their profile. The targeting data may alternatively specify that an advertisement is to be sent out to all users enrolled with the enterprise service provider. A wide variety of other criteria may be specified in the targeting data.

The advertiser server **150** may receive additional information from advertisers. Such additional information may include logon and authentication information. It may include ad run time, and price and bid information for the fee paid by the advertiser to the service provider, as explained in greater detail hereinafter. The advertiser server **150** may also send information to advertisers. For example, demographic information may be gathered by the advertising server and sent to an advertiser relating to the success of their advertisement and how that success may be improved. The transfer of other information is contemplated.

The advertiser server **150** may further include a targeting engine **156**. Engine **156** is responsible for receiving the stored target data for a given stored advertisement, and then selecting the recipients to receive the ad from the profile store **130**. The targeting data may be received via the advertising interface **152** in a form allowing the engine to compare the targeting data against fields within users' profiles to identify the users having stored characteristics that correlate to one or more of the targeting data criteria. For example, the targeting engine may use profile address information to generate recipients within a given radius of an advertiser, the targeting engine may use profile data relating to age to generate recipients of an age group-targeted advertisement, etc. Thus, different users may be targeted for different ads. The targeting engine **156** may be included as part of PIM server **102** in alternative embodiments of the present system. It is also contemplated that the targeting engine search other databases conventionally maintained on service provider system **100** which may have additional user information. Such additional databases may include a billing database used to bill users for subscriber servers and a contacts database of the user's contacts.

The operation of an embodiment of the present system described above will now be explained with reference to the flowchart of FIG. **2** and the illustrations of a user interface **112/122** shown in FIGS. **3** through **5**. The ad content data and target data may be received from the advertiser in step **200**, and stored in step **202**. Targeting engine **156** may then select the recipients of the advertisement in step **204**. A list of intended recipients selected in step **204** may be stored, and upon an intended recipient next opening his or her calendar interface, the advertisement may then be forwarded to the intended recipient in step **206**. The advertisement may be sent using the web server in PIM server **102** to send to computing device **106***a* and/or directly from the advertiser server **150** to the client application program in computing device **106***b*.

FIG. **3** is an illustration including a calendar user interface **112/122** which may be presented to a user over a display. The interface **112/122** may include known elements for setting user preferences and navigating to different dates. As shown, a plurality of targeted advertisements **160** may frame the user interface on one or more sides. As indicated above, the ads displayed with the interface **112/122** may have been selected by the targeting engine **156** for that user based on a variety of targeting criteria. The ads may also specify temporal events that apply to specific upcoming dates. For example, the ads may be targeted to some or all users for a specific upcoming holiday, such as the first ad directed to Valentines Day. The ads may also be targeted to some or all users to identify a particular upcoming event, such as a sale as shown in the second, third and last ads. A wide variety of other events may be advertised in addition to or instead those shown, such as for example concerts, conferences, festivals, ceremonies, sporting events, openings, parties, trips, etc. Additionally, while the targeted ads may have a specific date associated with them as described above, the targeted ad need not have a date. For example, the fourth ad shown on FIG. **3** is a targeted ad without any date for a specific event.

The order of the ads may be determined by advertiser server **150** or the PIM server **102** based on a variety of criteria. Such criteria may include how much was paid for the ad, how long the ad has been running, etc. In a further embodiment, the targeting engine may additionally assign a relevance weighting of a given ad to a given user. That is, if the targeting

engine determines that a targeted ad has a high degree of relevance to a particular user, then the targeting engine may assign that ad a high weighting for that user. The higher weighted ads may then be displayed above the lower weighted ads for a given user. In such an embodiment, even where two users receive the same group of ads, a given ad may appear in different locations for the two users.

The ads are shown vertically in the chrome to the side of the calendar user interface **112/122**. It is understood that the ads may be textual and/or graphical, and may frame the user interface **112/122** elsewhere in alternative embodiments. Moreover, it is understood that the number of ads may vary in alternative embodiments. A scroll bar may optionally be included to provide more ads than will fit on the user's display or within the space allotted for ads.

Each of the ads shown may include a graphical button **162**, which, when selected, allows the user to add the associated advertised event to his or her calendar. If no ad is selected in step **210**, then the present system performs no further steps, though the advertiser may still be invoiced in step **220** as explained below. If, on the other hand, an ad is selected in step **210**, then the ad is retrieved in step **212** from the advertiser database **154**. In particular, upon clicking on graphical button **162**, the computing device **106***a*, **106***b* may send an identification for that ad to the advertiser server **150**, and generate a request on the advertiser server for the ad. The advertiser server **150** may then look up the ad within the advertising database **154**, and may then add the advertisement to the events database **118** for that user.

The user may then be presented with an interface allowing the user to add additional details regarding the event in step **214**. Such an interface is shown in FIG. **4**. For example, assuming a user selected the last ad shown, "Eat at a Joe's Near You," then the user could be presented with the interface **164** of FIG. **4**. The interface may be a known interface for scheduling calendar events, but the advertising data uploaded by the advertiser may specify text for automatically populating some of the fields. For example, the Subject, Location and Notes fields may be automatically populated with text or other data specified by the advertiser as shown in FIG. **4**. The user can change the pre-populated fields and/or specify other fields such as date, time, reminders, etc. In step **216**, any changes may be saved to the event database **118**, and the ad may be displayed as an event **166** on the calendar interface **112/122**, for example as shown in FIG. **5**.

In embodiments, ads may be for a specific date and time (concerts, sporting events, etc.). In such instances, where a user selects the Add to Calendar button **162** for those events, the step **212** of specifying event details may be skipped and the ad may be added directly to the calendar interface **112/122** in step **214** at the designated date and time. In further embodiments, instead of including the Add to Calendar button **162**, the ads may be configured as graphical objects which can be dragged and dropped directly onto a specific date shown on the calendar interface **112/122**. An ad may also include a link which, when accessed, adds an advertisement directly to the calendar interface **112/122**. Once an ad is displayed and saved, clicking on the displayed event **166** brings up interface **164** shown in FIG. **4**, allowing the user to view details and/or make changes.

As indicated, a saved event **166** may be set up to include one or more reminders. If a reminder is set, the user may receive a reminder of the event **166** in step **218**. When a reminder is set, the calendar engine **114/124** may pull the event object for an event from events database **118** at the appointed time, and download them for display to the user, either on the calendar interface **112/122** or elsewhere.

An advertiser may be invoiced by the service provider in step **220**. As indicated above, the ability for advertisers to place targeted ads on a calendar interface where a user may easily save them may be more valuable than ad word based models. An advertiser may be charged for presentation of an ad to a user, a click on a presented ad and/or the addition of an ad to a user's calendar interface. In a further embodiment, an advertiser may be charged for a transaction arising between the advertiser and a user after an ad is added to the user's calendar interface, for example when the concert ticket is purchased, or when a coupon code is redeemed. This could be tracked using a web address that the user would click when they want to purchase a ticket or buy something online (or print a coupon to take to the store with them) etc. Purchase details may be provided in an email reminder that may be send to a user who has made a purchase.

Although not shown in the flowchart of FIG. **2**, the present system may additionally provide demographic feedback to advertisers. For example, the advertiser server **150** may communicate with the events database **118** to determine how often and by whom their ad was added to the events database. This demographic information may be useful to advertisers in setting future ad campaigns. Demographic information may also be fed back to the advertiser server **150** and targeting engine **156** to improve the ability of the targeting engine to target the correct user groups.

In an alternative embodiment, steps **210** through **218** described above may be omitted. In such an embodiment, once the ads are displayed on the calendar interface, no further steps are performed, beyond possibly the invoicing step **220**. The ad may simply be displayed (without offering the ability to add the advertisement to the calendar). In this and the above-described embodiments, the ad may also include a link to additional information relating to the advertised event, goods or services.

The above-described embodiment provides a valuable method for advertisers to target users with events which may be easily and quickly added to the users' stored calendar. This ability is potentially more valuable than traditional ad word models and may be priced by service providers accordingly. The present system provides a further benefit to service providers in that it creates an additional revenue generating advertising solution for existing advertising customers of the service provider.

In the system described above, ads are sent to targeted users as downloaded objects appearing around the calendar user interface. In an alternative embodiment of the present system, ads may additionally or alternatively be sent to targeted users as event invitations via an email. Such an email may be sent via a known email application program also included as part of service provider system **100** (possibly part of PIM server **102**). As is known in the art, an email may be set up and sent including an invitation to attend an event at a given time. Such an invitation may for example include event data in the known iCalendar data exchange format. When a user receives such an email, a user may accept the invitation, at which time the event would be added to the user's calendar interface **112/122** as described above.

It may happen that an advertiser's event time or date changes after it has been scheduled. In order to handle such situations, the advertiser server **150** could periodically check the advertiser website or other designated location for changes, and if one is found, the server could update the events database **118** and notify the users. Alternatively, a central list of all users that saved a scheduled event may be maintained, and if an advertiser changes the scheduled event, the advertiser can notify the advertiser server **150**, which

would then access the list of those who have scheduled the event and then make the necessary change for those users. Other possibilities for correcting scheduled events are contemplated.

The embodiments described above with respect to FIGS. **1** through **5** relates to a targeted ad model for adding advertiser events to users' private calendars. An alternative embodiment described below with respect to FIGS. **6** through **7** relates to a system for adding advertiser events to users' shared calendars. It is understood that private calendars may be shared by a user through the user setting the appropriate sharing permissions. However, the concept of shared calendars as used below refers to calendars which are accessible by multiple users, and to which multiple users may add events, without any one user having to grant permissions to others for its use. In embodiments, the notion of a shared calendar as used herein may also refer to a calendar which may be set up for a single, shared event. For example, a shared calendar may be set up for users to provide and receive information relating to a concert, a conference, a festival, a ceremony, a sporting event, etc.

Referring to FIG. **6**, there is again shown a block diagram of an embodiment of a service provider system **100** which may be operated by an enterprise service provider. The system **100** includes a plurality of computing devices **106***a*, **106***b* which may access the system **100** via a network **140** such as the Internet. Components having like numbers to those in FIG. **1** may operate as described above with respect to FIG. **1**.

In FIG. **6**, the service provider **100** includes a shared calendar server **170** including a shared calendar application **172**. Shared calendar application **172** may maintain a plurality of shared calendars subdivided into different categories. The categories could be any subject of interest to one or more users. As a few examples, one calendar may be devoted to when and where a local band is scheduled to play; another calendar may be devoted to when and where weddings are taking place in a given city or area; another category may be for scheduling events for a given school, business or other organization. It will be appreciated that there may be as many categories of shared calendars as there are different interests among users. An existing service capable of supporting shared calendar application **172** is MSN® Spaces or the like.

The shared calendar application program **172** may include a user interface **174**, presented via the web browser **108** on the display of computing device **106***a*, and a calendar engine **176**. The user interface **174** may be presented as web pages that allow a user to interact with the calendar application program. The calendar engine **176** may be a software module that receives user input from and presents user output to the user interface **174**. The calendar engine **176** may perform other tasks for user interaction with the computerized calendar, such as for example authenticating users, storing and retrieving event information, generating reminders, performing file system tasks, and the like.

The service provider system **100** may further include an events database **178** for storing event objects generated by the shared calendar application program for a plurality of users. Events database may be similar to events database **118** of FIG. **1**, with the exception that, in embodiments, the event calendar **118** includes event objects for a plurality of private calendars, where events database **178** include event objects for a plurality of shared calendars. It is possible that the databases **118** and **178** may be combined into a single database in embodiments of the present system.

The embodiment of FIG. **6** may operate in a web-based system utilizing browser **108** on computing device **106***a*, or in a client model, where a shared calendar application program **180** may be stored locally on a user's client computing device **106***b*. The shared calendar client application program may include a calendar interface **182** and a calendar engine **184** operating as explained above. In the client model, the events database may be stored locally on the user's device, but a copy may be kept on the shared calendar server **170**. Synchronization techniques may be employed to make sure that a shared calendar stored on two or more local computing devices remain in sync with one anther.

In the embodiment of FIG. **6**, a shared calendar may be populated with events from a plurality of users. The events may be added to the shared calendar application from a wide variety of sources. Events may be those from an individual user's schedule. Events may also be the events given by other, which may be obtained by a user from event sources **186** and/or **188** accessible to users via a network such as the Internet. Source **186** is a source of events within service provider system **100**, and may comprise a webpage from a web server including current events, event information, sports schedules, and a wide variety of other content which a user may want to add to a shared calendar. Source **186** may also be a search engine hosted by the service provider system **100**. Source **188** may be a source of events outside of service provider **100** capable of providing any content that a user may want to add to a shared calendar.

The service provider system **100** may further include an advertiser server **190** for receiving advertising content from advertisers via a computing device **106***c* as described above. Advertiser server **190** may include a web server for presenting a user interface **192**, as described above, to an advertiser over a web page generated on a display of computing device **106***c*. Advertiser server **190** further includes a database **194** for storing advertiser data. Database **194** may be stored outside of service provider system **100** in alternative embodiments of the present system.

In the embodiment of FIG. **6**, advertisers do not directly target specific users. Instead, advertisers target different categories of shared calendars. If there is a shared calendar for a category that relates to an advertiser's business or interests, the advertiser may choose to provide a targeted ad on that shared calendar. As a calendar for a particular category gets more and more users involved, it becomes more interesting to advertisers as they may then reach a greater number of users with their advertisement.

The operation of the embodiment shown in FIG. **6** is now explained with reference to the flowchart of FIG. **7**. In step **240**, a request may be received within the shared calendar server **170** to set up a shared calendar. The request may be received either from a computing device **106***a* via a web browser or directly from a client computing device **106***b*. A shared calendar may then be set up and saved on shared calendar server **170**. The shared calendar may alternatively be saved elsewhere within service provider system **100**, for example in events database **178**. The user may then store events on the created shared calendar in step **242**. The events created may be saved on events database **178**. In step **244**, a link is established to the created calendar so that others may access and interact with the calendar interface for the shared calendar, possibly adding their own events to the shared calendar.

In step **248**, an advertiser may upload an advertisement and have that advertisement displayed along side a shared calendar interface. Using advertiser interface **192**, the advertiser may provide the content of the ad, along with an identification (storage location) of which shared calendar the advertiser wants to display its ad in. This information may be stored within advertiser database **194**. In an embodiment, once the

ad is displayed on the shared calendar interface, no further steps are performed beyond the invoicing step **264** explained hereinafter. The ad may simply be displayed (without offering the ability to add the advertisement to the shared calendar). In this embodiment, the ad may also include a link to additional information relating to the advertised event, goods or services.

In an alternative embodiment, once the ad is displayed, a user may have the option of adding the ad onto the calendar interface, as in the embodiment described above with respect to FIGS. **1** through **5**. In particular, the ad may include a graphical button as shown on FIG. **3**, which, when selected by a user, may add the advertisement to the calendar interface. If an ad is selected for addition to a calendar interface in step **250**, then the ad is retrieved in step **254** from the advertiser database **194**. The advertiser server **190** may look up the ad from the advertising database **194**, and may add the advertisement to the events database **178**.

In step **256**, the user may then be presented with a user interface as explained above with respect to FIG. **4** allowing the user to add additional details regarding the event. The ad may be saved and displayed on the calendar interface in step **258**. A saved event may also be set up to include one or more reminders as indicated above. If a reminder is set, the user may receive a reminder of the event in step **262**. When a reminder is to be sent, the calendar engine **176**/**184** may pull the event object from the events database **178** at the appointed time, and download the for display to the user, either on the calendar interface or elsewhere.

An advertiser may be invoiced by the service provider in step **264**. Where the ad is merely displayed on the calendar interface, the advertiser may be charged a first fee for the display, and an additional fee if the ad is clicked (to bring the user to the advertiser's site or provide additional information about the ad). On the other hand, where a user is given the ability to actually add the event to the shared calendar, the advertiser may be charged for presentation of an ad to a user, a click on a presented ad and/or the addition of an ad to a user's calendar interface. In a further embodiment, an advertiser may be charged for a transaction arising between the advertiser and a user after an ad is added to the user's calendar interface, for example when the concert ticket is purchased, or when a coupon code is redeemed. This could be tracked using a web address that the user would click when they want to purchase a ticket or buy something online (or print a coupon to take to the store with them) etc. Purchase details may be provided in an email reminder that may be send to a user who has made a purchase.

It is further understood that instead of, or in addition to, an advertiser placing an ad on a shared calendar, the advertiser may post its event directly onto a shared calendar interface, as would any other user. In embodiments, the advertiser may or may not be billed for adding its event to the shared calendar interface in this manner.

FIG. **8** illustrates an example of a suitable general computing system environment **300** that may comprise any of the servers or computing devices on which portions of the inventive system may be implemented. The computing system environment **300** is only one example of a suitable computing environment and is not intended to suggest any limitation as to the scope of use or functionality of the inventive system. Neither should the computing system environment **300** be interpreted as having any dependency or requirement relating to any one or combination of components illustrated in the exemplary computing system environment **300**.

The inventive system is operational with numerous other general purpose or special purpose computing systems, environments or configurations. Examples of well known computing systems, environments and/or configurations that may be suitable for use with the inventive system include, but are not limited to, personal computers, server computers, multiprocessor systems, microprocessor-based systems, set top boxes, programmable consumer electronics, network PCs, minicomputers, mainframe computers, laptop and palm computers, hand held devices, distributed computing environments that include any of the above systems or devices, and the like.

With reference to FIG. **8**, an exemplary system for implementing the inventive system includes a general purpose computing device in the form of a computer **310**. Components of computer **310** may include, but are not limited to, a processing unit **320**, a system memory **330**, and a system bus **321** that couples various system components including the system memory to the processing unit **320**. The system bus **321** may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. By way of example, and not limitation, such architectures include Industry Standard Architecture (ISA) bus, Micro Channel Architecture (MCA) bus, Enhanced ISA (EISA) bus, Video Electronics Standards Association (VESA) local bus, and Peripheral Component Interconnect (PCI) bus also known as Mezzanine bus.

Computer **310** may include a variety of computer readable media. Computer readable media can be any available media that can be accessed by computer **310** and includes both volatile and nonvolatile media, removable and non-removable media. By way of example, and not limitation, computer readable media may comprise computer storage media and communication media. Computer storage media includes both volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Computer storage media includes, but is not limited to, random access memory (RAM), read only memory (ROM), EEPROM, flash memory or other memory technology, CD-ROMs, digital versatile discs (DVDs) or other optical disc storage, magnetic cassettes, magnetic tapes, magnetic disc storage or other magnetic storage devices, or any other medium which can be used to store the desired information and which can be accessed by computer **310**. Communication media typically embodies computer readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared and other wireless media. Combinations of any of the above are also included within the scope of computer readable media.

The system memory **330** includes computer storage media in the form of volatile and/or nonvolatile memory such as ROM **331** and RAM **332**. A basic input/output system (BIOS) **333**, containing the basic routines that help to transfer information between elements within computer **310**, such as during start-up, is typically stored in ROM **331**. RAM **332** typically contains data and/or program modules that are immediately accessible to and/or presently being operated on by processing unit **320**. By way of example, and not limita-

tion, FIG. **8** illustrates operating system **334**, application programs **335**, other program modules **336**, and program data **337**.

The computer **310** may also include other removable/non-removable, volatile/nonvolatile computer storage media. By way of example only, FIG. **8** illustrates a hard disc drive **341** that reads from or writes to non-removable, nonvolatile magnetic media and a magnetic disc drive **351** that reads from or writes to a removable, nonvolatile magnetic disc **352**. Computer **310** may further include an optical media reading device **355** to read and/or write to an optical media.

Other removable/non-removable, volatile/nonvolatile computer storage media that can be used in the exemplary operating environment include, but are not limited to, magnetic tape cassettes, flash memory cards, DVDs, digital video tapes, solid state RAM, solid state ROM, and the like. The hard disc drive **341** is typically connected to the system bus **321** through a non-removable memory interface such as interface **340**, magnetic disc drive **351** and optical media reading device **355** are typically connected to the system bus **321** by a removable memory interface, such as interface **350**.

The drives and their associated computer storage media discussed above and illustrated in FIG. **8**, provide storage of computer readable instructions, data structures, program modules and other data for the computer **310**. In FIG. **8**, for example, hard disc drive **341** is illustrated as storing operating system **344**, application programs **345**, other program modules **346**, and program data **347**. These components can either be the same as or different from operating system **334**, application programs **335**, other program modules **336**, and program data **337**. Operating system **344**, application programs **345**, other program modules **346**, and program data **347** are given different numbers here to illustrate that, at a minimum, they are different copies. A user may enter commands and information into the computer **310** through input devices such as a keyboard **362** and a pointing device **361**, commonly referred to as a mouse, trackball or touch pad. Other input devices (not shown) may include a microphone, joystick, game pad, satellite dish, scanner, or the like. These and other input devices are often connected to the processing unit **320** through a user input interface **360** that is coupled to the system bus **321**, but may be connected by other interface and bus structures, such as a parallel port, game port or a universal serial bus (USB). A monitor **391** or other type of display device is also connected to the system bus **321** via an interface, such as a video interface **390**. In addition to the monitor, computers may also include other peripheral output devices such as speakers **397** and printer **396**, which may be connected through an output peripheral interface **395**.

The computer **310** may operate in a networked environment using logical connections to one or more remote computers, such as a remote computer **380**. The remote computer **380** may be a personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to the computer **310**, although only a memory storage device **381** has been illustrated in FIG. **8**. The logical connections depicted in FIG. **8** include a local area network (LAN) **371** and a wide area network (WAN) **373**, but may also include other networks. Such networking environments are commonplace in offices, enterprise-wide computer networks, intranets and the Internet.

When used in a LAN networking environment, the computer **310** is connected to the LAN **371** through a network interface or adapter **370**. When used in a WAN networking environment, the computer **310** typically includes a modem **372** or other means for establishing communication over the WAN **373**, such as the Internet. The modem **372**, which may be internal or external, may be connected to the system bus **321** via the user input interface **360**, or other appropriate mechanism. In a networked environment, program modules depicted relative to the computer **310**, or portions thereof, may be stored in the remote memory storage device. By way of example, and not limitation, FIG. **8** illustrates remote application programs **385** as residing on memory device **381**. It will be appreciated that the network connections shown are exemplary and other means of establishing a communication link between the computers may be used.

The foregoing detailed description of the inventive system has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the inventive system to the precise form disclosed. Many modifications and variations are possible in light of the above teaching. The described embodiments were chosen in order to best explain the principles of the inventive system and its practical application to thereby enable others skilled in the art to best utilize the inventive system in various embodiments and with various modifications as are suited to the particular use contemplated. It is intended that the scope of the inventive system be defined by the claims appended hereto.

We claim:

1. A method of targeted advertising in association with the use of a calendar application program of a user, comprising the steps of:

(a) providing a calendar user interface on a display device, the calendar user interface having a first and a second display area;

(b) outputting a portion of a user's calendar in the first display area of the calendar user interface;

(c) obtaining a plurality of advertisements having a correlation between targeting criteria and the user's profile information, wherein each of the plurality of advertisements corresponds to a event that may be placed in a calendar; and

(d) displaying the plurality of advertisements in the second display area of the calendar user interface, wherein each of the plurality of advertisements displayed in the second display area of the calendar user interface includes an actionable control for adding the corresponding event to the user's calendar.

2. The method recited in claim **1**, said step (c) of obtaining a plurality of advertisements having a correlation between targeting criteria and the user's profile information comprising the step of obtaining an advertisement based on the user having stored address information indicating the user has an address within a defined geographical area or defined geographical distance from an advertiser place of business.

3. The method recited in claim **1**, said step (c) of obtaining a plurality of advertisements having a correlation between targeting criteria and the user's profile information comprising the step of obtaining an advertisement based on the user having stored information indicating the user is at least one of: i) a gender indicated in the targeting criteria, ii) within an age group indicated in the targeting criteria, iii) a religion indicated in the targeting criteria, iv) a nationality indicated in the targeting criteria, and v) an interest or preference indicated in the targeting criteria.

4. The method of claim **1**, further comprising the step (f) of receiving an indication through selection of the actionable control to add an event corresponding to an advertisement obtained in said step (c) to the first display area.

5. The method of claim 4, further comprising the step of adding an event corresponding to an advertisement to the first display area upon receiving the indication to add the event in said step (f).

6. The method recited in claim 5, further comprising the step of automatically modifying the event added to the first display area by automatically and periodically contacting a computing device supported by the advertiser to determine if information associated with the event has changed.

7. The method recited in claim 5, further comprising the step of automatically modifying the event added to the first display area by automatically receiving notification and new information relating to a change in the event from a computing device supported by an advertiser.

8. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method of targeted advertising in association with the use of a calendar application program by a plurality of users, comprising the steps of:

(a) receiving data including ad content and target data;

(b) selecting one or more users of the plurality of users to receive an advertisement including the ad content based on the target data received in said step (a) and stored data associated with the one or more users;

(c) displaying the ad content in a first area and calendar interface in a second area over displays for the one or more users selected in said step (b), the ad content displayed in the first area with a graphical object allowing information to be added to the calendar interface relating to the ad content;

(d) receiving a selection of a graphical object on a display from a user of the one or more users via a user interface to add the information relating to the advertisement to a database of stored calendar events for the user; and

(e) adding the information relating to the advertisement to the database of stored calendar events for the user upon receiving the selection of the graphical object in said step (d).

9. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein said step (e) comprises the step of storing the information relating to the advertisement on a database maintained within a service provider system supporting the calendar application program.

10. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein said step (e) comprises the step of storing the information relating to the advertisement on a database maintained within a computing device of the user.

11. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, further comprising a step (f) of notifying a user with a reminder relating to the advertisement after the information relating to the advertisement has been added to the database of stored calendar events for the user in said step (e).

12. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein said step (a) of receiving data including ad content and target data comprises the step of receiving data within a service provider system supporting the calendar application program from an advertiser via a user interface and network connection between the advertiser and service provider system.

13. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein the information to be added to the calendar interface in said step (c) relates to an upcoming temporal event.

14. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein said step (b) of selecting the one or more users to receive the advertisement based on the target data and stored data associated with the one or more users comprises the steps of:

(b1) searching one or more databases of stored user information for user;

(b2) finding user information that correlates to the targeting data; and

(b3) selecting a user to receive the advertisement where a correlation is found between the user information and targeting data.

15. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein said step (b) of selecting the one or more users to receive the advertisement based on the target data and stored data associated with the one or more users comprises the steps of selecting one or more users having stored address information indicating the user is within a defined geographical area or a defined geographical distance from an advertiser place of business.

16. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 8, wherein said step (b) of selecting the one or more users to receive the advertisement based on the target data and stored data associated with the one or more users comprises the steps of selecting one or more users having stored information indicating the user is at least one of: i) a gender indicated by the target data, ii) within an age group indicated by the target data, iii) a religion indicated by the target data, iv) a nationality indicated by the target data, and v) an interest or preference indicated by the target data.

17. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method of targeted advertising in association with the use of a calendar application program by a plurality of users, comprising the steps of:

(a) providing a calendar user interface, for use by one or more users, for display over one or more displays, the calendar user interface including a first area and a second area;

(b) outputting at least a portion of one or more users' calendars in the first area;

(c) receiving data including ad content, the ad content including a temporal event that may be placed on the calendar user interface;

(d) displaying the ad content in the second area over one or more displays, wherein the ad content includes an actionable control for adding the corresponding temporal event to the calendar user interface;

(e) receiving a selection of the actionable control by a user;

(f) adding the ad content associated with the actionable control selected in said step (e) to the calendar user interface.

18. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim 17, wherein said steps (a) and (b) comprise the step of receiving data within a service provider system supporting the calendar application program from an advertiser via a user interface and network connection between the advertiser and service provider system.

19. A computer-readable storage medium having computer-executable instructions for programming a processor to perform a method as recited in claim **17**, further comprising the steps of:

(g) automatically receiving notification and new information relating to a change in the ad content from a computing device supported by the advertiser; and

(h) automatically updating the ad content displayed on the shared calendar interface over the one or more.

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