A method and system for a first user to provide a future notification (referred to as a deferred notification) on second user's mobile device based on the second user's location are disclosed.

20 Claims, 3 Drawing Sheets
First user provides a notification for a second user, using SMS, email, or a web application such as Facebook. The message is sent to a 'server address' with the following as the message body:
@To: John
@Loc: China Town, San Francisco
@Place: China Delight
@Radius: 1 mile
@TimeRange: 11:30am to 9:00pm
@Msg: Check out the food at China Delight
@Attachment1: short voice message
@Attachment2: Web-page link for reviews of China Delight
@Expires: 1 year from current date

Server processes the request, and creates a deferred notification event in a database stored on the server.

Second user’s mobile device application connects to the server when the second user enables the mobile software application on the mobile device. The mobile application authenticates the second user’s identity such as user name and password and then downloads the deferred notification on to the mobile device and stores it in a database. The mobile application determines the second user’s location using GPS, WiFi, or other known technique.

If the second user is in the specified location, at the given time, the notification triggers on the mobile device displaying the message text and/or playing a voice message.
Figure 2

Client Computer Hardware running Web-Applications

Create a deferred notification

Mobile application downloads deferred notification from server. Notification is dormant until user is at the specified location.
Mobile application downloads Facebook posts from a Facebook server and converts them into a deferred notification.

Mobile application downloads deferred notification from server. Notification is dormant until user is at the specified location.
LOCATION, TIME, AND CONTEXT-BASED DEFERRED NOTIFICATIONS ON A MOBILE DEVICE

CROSS-REFERENCE TO RELATED PATENT APPLICATION

This application relates to U.S. Provisional Patent Application No. 61/495,935 filed on Jun. 10, 2011, entitled LOCATION, TIME, AND CONTEXT-BASED DEFERRED NOTIFICATIONS ON A MOBILE DEVICE, which is hereby incorporated herein in its entirety by this reference.

BACKGROUND OF THE INVENTION

The present invention relates generally to mobile devices, for example, cellular telephones, PDA’s, and the like, and, more particularly, to mobile devices incorporating a geographical positioning system (GPS) feature or other technology to enable the location of the mobile device to be determined. More particularly, various examples of the present invention provide a method and system for a first user to initiate a future notification(s) on a second user’s mobile device wherein notification of the second user is dependent at least in part on the second user’s location. In addition, users can provide themselves a future notification(s).

SUMMARY OF THE INVENTION

In accordance with the present invention, various examples of a method and system for scheduling a notification on a user’s mobile device by another user are provided. In accordance with various examples, a method and system enable one user (referred to as the “Sender”) having a first device, for example, a computer system or mobile device, to structure a notification to at least one other user (referred to as the “Receiver(s)”) having a mobile device(s), using SMS, email, a web application such as Facebook, or a mobile application, to specify a location at which the Receiver(s) will receive the notification at a future time (referred to as a “deferred notification”). In accordance with one example, the notification is deferred and received on a Receiver’s mobile device when the Receiver is at the specified location at a future time and is willing to accept such a deferred notification from the Sender. In accordance with another example, the one user can send a deferred notification to himself or herself.

An advantage is that the Sender can leave a message for his or her friend(s) and/or family member(s) or even himself or herself (Receiver(s)) that will be sent at some future time, when the the Receiver(s) is (are) at a specified location. Accordingly, important messages can be created in advance, so that the Receiver(s) will receive the message at the right place at a future time, and, preferably, when any other additional criteria for the deferred notification have been met. The additional criteria for the deferred notification are referred to as “context” wherein, for example, context can be a Receiver’s preferences.

BRIEF DESCRIPTION OF THE DRAWING

The various examples of the present invention will be described in conjunction with the accompanying figures of the drawing to facilitate an understanding of the present invention. In the drawing:

FIG. 1 is a flow diagram which illustrates an example of the deferred notification method in accordance with the present invention.

FIG. 2 is a block diagram of an example of a system for creating deferred notifications in accordance with the present invention.

FIG. 3 is a block diagram of an example of a system involving a social networking web site for creating deferred notifications in accordance with the present invention.

DETAILED DESCRIPTION OF THE VARIOUS EXAMPLES

In accordance with various examples of the present invention, a method and system for one user initiating a future notification on another user’s mobile device will be described. In accordance one example, the method and system enable a user (referred to as the “Sender”) having a first device, for example, a computer system or a mobile device such as a cellular telephone or PDA, to provide a notification to at least one other user (referred to as the “Receiver(s)”) having a mobile device(s), using SMS, email, a web application such as Facebook, or a mobile application, to specify a particular location or an area within a given distance of a particular location and also a specified time window during a future time period during which the notification may be issued.

Referring now to the drawing, in accordance with an example, a first user, referred to as the Sender, sends a message that may be received by at least one other user, referred to as the Receiver(s), having a mobile device(s), using SMS, email, a web application such as Facebook, or a mobile application, as indicated by the numeral 20 shown in FIG. 1. In the example, the sent message preferably contains at least a location where a notification will become active and a time range or window within which the notification will become active, and may also contain additional optional parameters that constitute criteria to trigger the deferred notification. As indicated by the numeral 22 shown in FIG. 1, the message generated by the Sender preferably contains the following parameters: at least one Receiver mobile device address (e.g., @To: John); a specified location (e.g., @Loc: China Town, San Francisco); a specified time period (e.g., @TimeRange: 11:30 am to 9:00 pm); and a message text (e.g., @Msg: Check out the food at China Delight) and/or an attachment, if any (e.g., @Attachment1: short voice message or other attachment). The Sender message may alternatively or additionally contain one or more of the following additional parameters: a particular location or a place (e.g., @China Delight); a distance range (e.g., @Radius: 1 mile); an additional attachment (e.g., @Attachment2: web-page link relating to reviews of China Delight); and a date range from the current date during which the notification is effective (e.g., @Expires: 1 year from current date). Thus, the notification preferably contains a message body including, for example, a short message text, short voice clip, or other web content such as web-page links, as part of the deferred notification. The message generated by the Sender is transmitted to a communications server which processes the message and generates a pending deferred notification event that is preferably stored in a database accessible by the communications server, as indicated by the numeral 24 shown in FIG. 1.

As shown in FIG. 1, the user who is addressed in the message (e.g., @To: John) may receive pending deferred notifications by launching a mobile device deferred notification application installed on his or her mobile device to enable communication with the communications server, as indicated by the numeral 26. As indicated by the numeral 28 shown in FIG. 1, the mobile device deferred notification application preferably authenticates the potential Receiver's identifica-
This message is delivered to User2's mobile device if the User2 is in China Town in San Francisco and if it is dinner time.

Another example utility is one user posting a message in the form of a question on a second user's Facebook page. If the second user replies to the question, the reply to the first user's message is triggered in the future at the requested location. For example: User1 posts a Facebook message to User2 with the following text: "John, What is a good place for lunch @Location in the Mission District in San Francisco?".

A reply to the message is delivered to User1's mobile device if User2 replies to the message on Facebook, when User1 is in the Mission District in San Francisco.

In accordance with another example, the first user and the second user are the same person. Accordingly, a user can send a deferred notification to himself or herself.

FIG. 2 shows one example of a system in accordance with the present invention for creating a deferred notification. The system 40 comprises a client computer system such as a personal computer 42 running a deferred notification web application or mobile phone 44 of a Sender running a deferred notification mobile application to create a deferred notification message in accordance with the method described in conjunction with FIG. 1. The message is transmitted via the Internet or World Wide Web 46 to a server 48 which stores the message in a database accessible by the server. The deferred notification is transmitted by the server 48 to a mobile device 50 of a Receiver running a deferred notification mobile application via the Internet or World Wide Web 46.

In accordance with another example of a system 58 shown in FIG. 3, a deferred notification mobile application running on a Sender's mobile phone 60 downloads posts from a server 62 at a social networking website, for example, Facebook, via the Internet or World Wide Web 46. The application converts the posts into a deferred notification message in accordance with the method described in conjunction with FIG. 1. The message is transmitted via the Internet or World Wide Web 46 to a server 48 which stores the message in a database accessible by the server. The deferred notification is transmitted by the server 48 to a mobile device 64 of a Receiver running a deferred notification mobile application via the Internet or World Wide Web 46.

While the foregoing description has been with reference to particular examples of the present invention, it will be appreciated by those skilled in the art that changes in these examples may be made without departing from the principles and spirit of the invention. Accordingly, the scope of the present invention can only be ascertained with reference to the appended claims.

What is claimed is:

1. A method by which a deferred notification is provided, comprising:
   generating a message associated to a deferred notification to be received by at least one user having a mobile device, wherein the generated message specifies an address for the at least one user's mobile device and at least a location or area where the deferred notification will become active and a future time or future time range within which the deferred notification will become active;
   transmitting the generated message to a server which processes the message and produces a pending deferred notification;
   selectively enabling the user's mobile device under control of the user to receive the pending deferred notification from the server when a deferred notification mobile
5 The method of claim 1 wherein the message is generated using SMS, email, a web application, or a mobile application.

3. The method of claim 1 wherein the message is generated using one or more posts downloaded from a social networking web site server.

4. The method of claim 1 wherein the generated message further comprises a question or at least one of a message text and an attachment.

5. The method of claim 4 wherein the attachment is a voice message or a web-page link, whereby the deferred notification provides at least a message text and at least one of a voice clip and web-page link.

6. The method of claim 1 wherein the generated message further comprises one or more parameters selected from among the group of parameters consisting of a particular place to define the location, a distance range with respect to a location to define the area within which the pending deferred notification will be effective, and a date range from a current date during which the pending deferred notification will be effective.

7. The method of claim 1 wherein the server stores the deferred notification in a database accessible by the server.

8. The method of claim 1 wherein selectively enabling the user's mobile device under control of the user to receive the pending deferred notification from the server is in response to the user launching the deferred notification mobile application installed on the mobile device.

9. The method of claim 1 wherein downloading the pending deferred notification to the user's mobile device comprises downloading the deferred notification to a database in memory comprising the mobile device.

10. The method of claim 1 wherein the geographical location is determined by GPS or WiFi.

11. The method of claim 1 wherein the deferred notification event is manifested in the form of a text message or in the form of a voice message created when the message is generated.

12. The method of claim 1 wherein there is a plurality of user mobile devices and generating a message to be received by at least one user having a mobile device comprises generating a message which specifies an address for each of the plurality of users' mobile devices.

13. The method of claim 1 wherein the message is generated by a user and generating a message to be received by at least one user having a mobile device comprises specifying an address for that user's mobile device.

14. The method of claim 1 wherein the message is generated using a computer system or a mobile device.

15. A method by which a deferred notification is provided, comprising:

- generating a message associated to a deferred notification to be received by at least one user having a mobile device, wherein the generated message specifies an address for the at least one user's mobile device and at least a location or area where the deferred notification will become active and a future time or future time range within which the deferred notification will become active;
- transmitting the generated message to a server which processes the message and produces a pending deferred notification;
- launching a deferred notification mobile application installed on the mobile device when all user preferences under control of the user associated to the user's mobile device are met to selectively enable the user's mobile device to receive the pending deferred notification from the server;
- determining that the deferred notification mobile application launched under control of the user is active on the mobile device and all user preferences associated to the user's mobile device are met to enable the user's mobile device to receive the pending deferred notification from the server;
- selectively downloading the pending deferred notification to the user's mobile device if the user's mobile device is enabled to receive the pending deferred notification;
- if the location of the mobile device is at the location or within the area specified by the message at the future time or within the future time range specified in the message.

16. The method of claim 15 wherein the location is at the location or within the area specified by the message at the future time or within the future time range specified in the message.

17. The method of claim 16 wherein the log-in comprises a valid user name and password.

18. A method by which a deferred notification is provided, comprising:

- generating a message associated to a deferred notification to be received by at least one user having a mobile device using one or more posts downloaded from a social networking web site server, wherein the generated message specifies an address for the at least one user's mobile device and at least a location or area where the deferred notification will become active and a future time or future time range within which the deferred notification will become active;
- transmitting the generated message to a message server which processes the message and produces a pending deferred notification;
- launching a deferred notification mobile application installed on the mobile device when all user preferences under control of the user associated to the user's mobile device.
device are met to selectively enable the user’s mobile device to receive the pending deferred notification from
the server;
selectively downloading the pending deferred notification
to the user’s mobile device if the user’s mobile device is
enabled to receive the pending deferred notification;
if the user’s mobile device is enabled to receive the pending
defered notification, determining a location of the
mobile device using a geographical location feature of
the mobile device; and
if the location of the mobile device is at the location or
within the area specified by the message at the future
time or within the future time range specified by the
message, triggering the deferred notification event on
the user’s mobile device;
wherein the deferred notification is triggered on the user’s
mobile device when the mobile device is at the location
or within the area specified in the message at the future
time or within the future time range specified in the
message.

19. The method of claim 18 wherein generating the mes-

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age to be received by at least one user having a mobile device
using one or more posts from a social networking web site
server comprises automatically inferring location or context
aware messages from a social network to be presented on the
user’s mobile device at a time in the future.

20. The method of claim 19 wherein a user signs up once
for a particular feed of information from a given social net-
work such that any information that has location associated
there to is automatically presented to the user at the time in the
future.