A computer implemented method for automatically delivering a series of dynamic alerts to a user and for automatically reconfiguring the user interface to compensate for changes in perceived diminished cognitive ability of the user, said method being implemented using a computer application running on a computing device having a user interface, said method comprising the steps of: a) delivering a series of alerts to the user on the computing device at predetermined intervals until receipt of the most recent alert is acknowledged by the user by complying with at least one of a plurality of action requests displayed on the user interface of the computing device; b) automatically modifying the intensity level and/or number of sensory means of at least one alert in said series of alerts; and c) in the event that a predetermined number of alerts go unacknowledged by the user, modifying the number and/or character of said plurality of action requests to better accommodate the user's cognitive ability. In another embodiment the subject invention is described in terms of an article of manufacture embodied in a machine storage medium including data that, when accessed by a machine, cause the machine to carry out the above steps.
FIG. 1

PDA General Alert Description

PDA

Main Application

Scheduled Event

Calendar

Incoming SMS message Event

SMS System/Wireless Carrier

Remote Computing Device

Incoming MM message Event

Raise Alert

Alert

Alert Confirmation

Alert Confirmation

Sufferer
FIG. 2

PDA Re-configuration Mechanism

PDA

Alert Raised

Timer started

Generate Notification

Alert Dialog

Alert Confirmation

Self Re-configure

Timer expired / No Alert Confirmation

Sufferer confirmed the alert

Alert Confirmed/Cancelled

Caregiver

Send Notice

Sufferer
DYNAMIC REMINDER SYSTEM, METHOD AND APPARATUS FOR INDIVIDUALS SUFFERING FROM DIMINISHING COGNITIVE SKILLS

RELATED APPLICATION

This application claims the benefit of U.S. Provisional Application No. 61/206,445, filed Jan. 29, 2009 and entitled, Method, System, And Apparatus For Supporting Individuals With Impaired Memory.

FIELD OF THE INVENTION

The present invention relates to a dynamic computer based reminder system, method and apparatus for individuals suffering from Alzheimer’s disease and other cognitive impairing conditions.

BACKGROUND

People with memory impairment (“sufferers”) lack an awareness of the actions, events, and experiences of their everyday lives. This lack of continuity in their lives and can lead to confusion, embarrassment, isolation, depression, a loss of independence and sense of self, and impaired decision-making. One common cause of memory impairment is Alzheimer’s disease (AD). One of the earliest symptoms of AD and Mild Cognitive Impairment (a condition that often precedes AD) is loss of the ability to recall memories of recent experiences and planned events.

Supporting a sufferer by providing verbal and written reminders of scheduled events such as taking medications, attending doctor appointments, and other common tasks can prove to be an overwhelming obligation for the sufferer’s primary caretaker. Accordingly, it is common practice to resort to the use of various electronic reminder devices. All too often, however, such devices are either ill-equipped to effectively evoke the desired responsive action by the sufferer, or are overly complicated to use.

There have been proposed various methods and apparatus developed for communicating with individuals suffering from impaired memory, for reminding them to perform daily tasks, and for improving memory. One such system is described in this applicant’s U.S. patent application entitled, Method, System and Apparatus For Encouraging Frequent And Purposeful Electronic Communications From Caregivers To Individuals With Impaired Memory which said application has been filed substantially contemporaneously herewith and is incorporated herein by reference. The application teaches a computer implemented system and method for encouraging frequent and purposeful electronic communications from caregivers to individuals with impaired memory to, inter alia, alleviate feelings of isolation and improve memory. The system includes a Web-based application through which caregivers send text, image, voice and other forms of data for receipt by the sufferer on a PDA. A difficulty encountered by individuals suffering from deteriorating cognitive skills is that their ability to interact with the PDA user interface also diminishes over time. Features which they may be able to utilize today may no longer be manageable as their cognitive skills decline. The occurrence of important audible and visual alerts may no longer be recognizable or meaningful to the sufferer over time potentially leading to further confusion and/or frustration. Ultimately, the sufferer may avoid the apparatus altogether even though it may still possess features and functionality that the sufferer is still able to utilize. Accordingly, there is a need for a personal computing device such as a PDA to possess a dynamic reminder and alert system, that is to say a computing device possessing means for detecting when various alerts are being ignored and for automatically responding to the user’s inaction in a variety of meaningful ways to encourage the sufferer to respond.

All patents, patent applications, provisional applications, and publications referred to or cited herein, or from which a claim for benefit of priority has been made, are incorporated herein by reference in their entirety to the extent they are not inconsistent with the explicit teachings of this specification.

SUMMARY OF THE INVENTION

The present invention solves the need in the art by providing a dynamic computer based reminder system, method and apparatus for use by individuals suffering from progressive memory impairment or other cognitive deterioration. More particularly, the subject reminder system automatically modifies the visual, audible and/or tactile nature of reminder alerts in response to the detection of non-responsiveness of the sufferer. The computing system is preferably but not essentially a hand-held device such as a PDA or Smartphone through which the sufferer is provided access to a variety of functional features including, for example, receiving task reminders, cognitive skills activities and memory invoking messages in the form of text, images, voice and video sent by third parties via a communications infrastructure such as the Internet. During early stages of memory loss the user interface will be more feature-rich, however, as memory loss or other cognitive diminishment progresses the user interface of the device will, in accordance with the method described herein, be automatically reconfigured to provide functionality commensurate with the sufferer’s then capabilities.

Accordingly, the subject invention in one embodiment is a computer implemented method for automatically delivering a series of dynamic alerts to a user and for automatically reconfiguring the user interface to compensate for changes in perceived diminished cognitive ability of the user, said method being implemented using a computer application running on a computing device having a user interface, said method comprising the steps of: a) delivering a series of alerts to the user on the computing device at predetermined intervals until receipt of the most recent alert is acknowledged by the user by complying with at least one of a plurality of action requests displayed on the user interface of the computing device; b) automatically modifying the intensity level and/or number of sensory means of at least one alert in said series of alerts; and c) in the event that a predetermined number of alerts go unacknowledged by the user, modifying the number and/or character of said plurality of action requests to better accommodate the user’s cognitive ability.

In another embodiment the subject invention is an article of manufacture embodied in a machine storage medium including data that, when accessed by a machine, cause a computer processor in the machine to carry out the above steps.

The invention further includes other methods and apparatus of varying scope.

There has thus been outlined, rather broadly, the more important components of the system of the subject invention in order that the detailed description thereof that
follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto. In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purposes of description and should not be regarded as limiting. As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

By virtue of the above described method and apparatus a primary objective of the subject invention may be achieved, namely providing a personal computing device specifically intended for use by individuals suffering from deteriorating memory and/or other cognitive abilities, the device including a dynamic reminder system for prompting the sufferer to attend to scheduled tasks and which automatically adapts to the user's changing cognitive abilities.

This together with other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there is illustrated a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a flow chart of a computer implemented method of sending alerts to a user of the subject apparatus prompting the user to take action; and

FIG. 2 is a flow chart of a method of automatically reconfiguring a user interface of a computing device according to the teachings of the present invention.

It should be understood that in certain situations for reasons of computational efficiency or ease of maintenance, the ordering of the blocks of the illustrated flow charts could be rearranged or moved inside or outside of the illustrated loops by one skilled in the art. While the present invention will be described with reference to the details of the embodiments of the invention shown in the drawing, these details are not intended to limit the scope of the invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Reference will now be made in detail to the embodiments consistent with the invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numerals used throughout the drawings refer to the same or like parts. The term "user" and "sufferer" are used interchangeably herein.

The present application is directed to a computer based dynamic reminder and alert system, method and apparatus for, inter alia, automatically modifying the quality of alerts when prior alerts are ignored, said method being implemented using a computer application running on a computing device as herein described in detail.

Turning now specifically to FIG. 1, an embodiment of the subject invention as a system is comprised very generally of a computer system 10, operable to execute at a minimum a Main Application 20. Computer system 10 is preferably but not essentially a portable computing device such as a Personal Digital Assistant ("PDA"), but may be any type of computer system, including a personal computer system, mainframe computer system, workstation, network appliance, Internet appliance, television system or other device. In general, the term "computer system" can be broadly defined to encompass any device having at least one processor that executes instructions from a memory medium. An example of a suitable PDA device 20 is a Windows Mobile Professional (6.1 or later) compatible device. Computer system 10 is network accessible.

Computer system 10 (also referred to as "computing device") includes a memory medium(s) (not shown) on which one or more computer programs or software components according to one embodiment of the present invention may be stored. For example, the memory medium may store Main Application 20 itself. The memory medium may also store operating system software, as well as other software for operation of the computer system. The term "memory medium" is intended to include an installation medium, e.g., a CD-ROM, floppy disks, or tape device; a computer system memory or random access memory such as DRAM, SRAM, EDO RAM, Rambus RAM, etc.; or a non-volatile memory such as a magnetic media, e.g., a hard drive, or optical storage. The memory medium may comprise other types of memory as well, or combinations thereof. In addition, the memory medium may be located in a first computer in which the programs are executed, or may be located in a second different computer which connects to the first computer over a network, such as the Internet. In the latter instance, the second computer may provide program instructions to the first computer for execution.

Computer system 10 further includes a display device (not shown) operable to display a graphical user interface 24. The graphical user interface may comprise any type of graphical user interface, e.g., depending on the computing platform. In one embodiment the graphical user interface may comprise one or more windows, such as those used in window-based user interface systems such as provided by the Macintosh Operating System, Microsoft Windows, the X
Window System, etc. The graphical user interface may include a plurality of user interface elements, including indicators for displaying output and/or controls for specifying program input. Examples of user interface controls and indicators include charts, graphs, push buttons, knobs, numeric controls, text boxes, check boxes, list boxes, etc. The graphical user interface may also include any of various other types of user interface elements, such as menu bars, popup context menus, window close buttons, etc.

[0024] Computer system 10 still further includes means for providing audible and tactile alerts such as a speaker and vibrato means, respectively, and corresponding device drivers.

[0025] Main Application 20 is comprised of two subcomponents: a) a Net User Application for all subscriber side business logic; and b) a Simple Message System (SMS) Message Interceptor—registered with, for example, Windows Mobile system for intercepting all incoming SMS messages, optionally filtering the ones coming from authorized caretakers of the user, and passing them on to the Net User Application. Main Application 20 may be a C# application with XML configuration file used for caching purposes. This solution also provides rapid development of the subscriber side application, as well as provides the flexibility in choosing actual existing PDA devices and wireless network service providers.

[0026] By virtue of the above described apparatus the subject methods may be achieved, namely for automatically modifying the frequency and quality of alerts when prior alerts for the same event go ignored by a user 100 and notifying a second party 200 such as a caregiver that their intervention may be required. The degree of a user’s active response may vary, but at minimum it includes using the computer system 10 user interface 24 to confirm the reception of an alert 26. The term ‘alert’ as used herein means a computer generated audio, visual and/or physical (vibration) signal intended to capture the user’s attention and prompt the user to take some requested action. An alert may be viewed, therefore, as a “call to action” on the part of the user 100.

[0027] Programmatic events that can cause Main Application 20 to raise an alert 26 on a user interface 24 include: 1) scheduled events 12, namely events or tasks scheduled in Calendar 22 and recorded in the database of computing device 10, 2) incoming SMS message events 14, namely incoming text messages 16a sent from SMS System/Wireless Carrier 16, and 3) incoming multimedia message events 18, namely messages with attached image, video, audio or audio-video file 19a sent from a remote computing device 19 via a communications network.

[0028] As a corollary, examples of the content of alerts 26 that computer system 10 delivers to the user 100 are:

[0029] Incoming text message—the computer system 10 will try and encourage the sufferer to read the message; 

[0030] Incoming multimedia message (message with an attached picture/video)—the computer system 10 will try and encourage the sufferer to see the picture or a video attached in the message; 

[0031] Incoming SMS message—the computer system 10 will try and encourage the sufferer to read the message; 

[0032] Scheduled occasion (doctor appointment, anniversary, etc.)—the computer system 10 will try and encourage the sufferer to prepare for an occasion; and 

[0033] Scheduled task (medication intake, to-do item, etc.)—the computer system 10 will try and encourage the sufferer to perform certain tasks.

[0034] As user 100 interacts with the subject apparatus, or fails to interact with the subject apparatus, various types of user interface events may be generated and Main Application 20 may receive and respond to these events. It is noted that Main Application 20 may be configured to receive and respond to any other type of programmatic event, in addition to user interface events. For example, in various embodiments Main Application 20 may be configured to receive and respond to system events, events generated in response to data acquired from another device, etc. One example of another device is a remote computer operated by a caregiver and connected to computer system 10 via a communications infrastructure comprised of one or more of Internet, Intranet, telephone interface, cellular interface, satellite, WAN, LAN, or the like. With such an arrangement the caregiver can access computer system 10 from a remote location and schedule important deadlines and reminders in the subject reminder system.

[0035] The subject computer system 10 delivers a series of alerts 26 to the user 100 at predefined intervals until the user stops the alerts by acknowledging receipt of the most recent alert through the user interface. As used herein, the term “deliver” shall mean causing computer system 10 to display visual sensory means on a user interface such as a keypad or display, and/or to produce audible and/or tactile sensory means perceptible to user 100.

[0036] Referring to FIG. 2, until the alerts are stopped by the user or are automatically timed out as described below, each alert in the series is reconfigured by Main Application 20 to be more intense in an effort to better capture the user’s attention. Alternatively, a series of alerts having the same intensity level may be delivered before the intensity level is automatically reconfigured. In either case the delivery time of the first alert is recorded by Main Application 20 in the database of computer system 10 which said time serves as a reference point for delivery of follow up alerts, if necessary, and in intervals which are either pre-programmed in Main Application 20 or manually entered by the user or caregiver. The delivery of each alert is intended to inform the user, for instance, of an upcoming event previously scheduled in calendar 22 of computer system 10 (in other words a an advance reminder of something not requiring the immediate attention of the user, of an event requiring immediate action, or of a non-scheduled event such as an incoming text or multimedia message.

[0037] Several forms of alerts may be employed to capture the attention of a user. Main Application 20 may be preprogrammed or alternatively programmed by the user or primary caregiver to deliver alerts in at least one of the following ways (“alert means”):

[0038] Sound—the computer system 10 produces an alert sound similar to a phone ring or a chime;

[0039] Voice—the computer system 10 replays a pre-recorded or synthesized human voice to ‘say’ the alert (i.e. ‘You have mail’ or ‘Your doctor appointment starts in two hours’);

[0040] computer system 10 backlights—the backlights of the computer system 10’s hardware buttons flash at a certain frequency;

[0041] On-screen—the computer system 10 displays a visual representation of an alert on its screen. The visual
representation may consist of any combination of text and graphics, including static and animated graphics; and

[0042] Vibrate—vibration means within computer system 10 physically vibrates.

[0043] A very important aspect of the alert delivery method in the context of supporting a sufferer is that sufferer 100 inputs into user interface 24 a confirmation or acknowledgement 30 that the alert was successfully received. Regardless of the alert mechanism employed by computer system 10 to alert the sufferer to a required action, an unambiguous alert dialog 32 is displayed on a display of computer system 10 that prompts the sufferer to confirm (cancel) or ‘snooze’ the alert. Confirming an alert causes the visual representation of an alert to disappear, cancels 34 the alert and all scheduled subsequent alerts for the same reminder. Upon receipt of a user initiated confirmation by Main Application 20, Main Application 20 may preferably but not essentially be programmed to record the receipt of the confirmation action and report it to any number of caregivers 200 to assist them in monitoring whether critical tasks are being attended to by the sufferer. ‘Snoozing’ an alert would make it disappear temporarily, until delivery of the next scheduled alert in accordance with the defined alert interval. ‘Snoozing’ an alert is not considered to be confirming an alert. The reports to caregivers may be delivered via text message, email, electronic fax or posting on a Remote Website accessible by the caregiver(s), for instance.

Self-Reconfiguration

[0044] As mentioned, Main Application 20 is preprogrammed to automatically modify alerts after a preset period of time that has elapsed. Alternatively, modification can take place after a predetermined number of alerts have been delivered without acknowledgement of receipt by the user. The time period or number of attempts may be preprogrammed in Main Application 20 or may be manually set by either the user or primary caregiver. Main Application 20 will automatically start a timer each time it initially delivers any of the alerts mentioned earlier in this document. If the sufferer does not respond to an alert by performing the requested action (i.e., confirming that the alert was received and attended to) within the predefined timeframe (or after the predefined number of attempts), Main Application 20 will assume that the alert (even repeated ones) failed to evoke the desired response from the sufferer and Main Application 20 will automatically perform self-reconfiguration 38 and second party notification 40 processes as described below (FIG. 2). Confirmation of receipt of an alert by the sufferer within the timeframe specified will not only cancel the alert, but will also stop and delete future preprogrammed alerts and stop the related alert timer.

[0045] In the event that an alert timer exceeds the value of a preprogrammed or set alert confirmation timeout period for a specific alert without the sufferer confirming the alert, main Application 20 will assume that the configured alert means (sound, voice, computer system 10 backlights, on-screen, and/or vibrate) is insufficient to capture the sufferer’s attention and evoke the desired response therefrom, and will proceed with reconfiguring of the alert means in at least one of three ways:

[0046] 1. Enabling remaining alert means—Initially, Main Application 20 is programmed to use only some of the available alert means, like sound for example. Expiration of the alert confirmation timeout period will cause Main Application 20 to enable additional, or all alert means.

[0047] 2. Increasing alert means intensity—Main Application 20 will automatically increase the intensity of the alert means (i.e., increase the loudness of sound and voice alerts, increase the intensity of the display or images appearing on the display of computer system 10, and/or increasing vibration strength).

[0048] 3. Simplifying the alert dialog—Main Application 20 will assume that the sufferer was successfully alerted by the alert means used, but that the sufferer’s cognitive ability has deteriorated to the extent that the sufferer is not able to comprehend or respond to the alert. Main Application 20 may in response simplify the alert dialog (see Alert Dialogue Simplification).

[0049] Once the self-reconfiguration procedure is initiated, Main Application 20 will reset the said timer to zero and start timing it again. Failure by the sufferer to confirm the alert before the timer expires again will retrigger the Self-Reconfiguration routine to accomplish further self-reconfiguration.

[0050] Regardless of the approach Main Application 20 takes, each time the Main Application 20 initiates the self-reconfiguration of the alert means, it will in addition deliver a notice 42 to a designated caregiver 200. Ultimately, if Main Application 20 reaches the point where it cannot self-reconfigure further, it will continue to notify the caregiver(s) at regular intervals, informing of the criticality of the situation.

Alert Dialogue Simplification

[0051] Depending on the nature of the original task or occasion that is the subject of the initial alert, Main Application 20 will typically be preprogrammed to cause the alert dialog displayed on the screen of computer system 10 to provide several different action requests other than merely a request to confirm the receipt of the alert. For example, in case of incoming multimedia message, the options may be:

[0052] Read the message
[0053] See the picture
[0054] Play the video
[0055] Reply to the sender
[0056] Forward the message

[0057] While executing an alert dialog simplification procedure, Main Application 20 will assume that the sufferer’s cognitive ability is diminished and will respond in an effort to help the sufferer through at least one of the following methods:

[0058] 1. Eliminating the less used options (i.e. Forward) to reduce clutter;

[0059] 2. Using larger and possibly more colorful/brighter fonts and/or graphics;

[0060] 3. Adding large and eye-catching ‘Need Help’ button on the screen; and/or

[0061] 4. Employing ‘Guided Mode’ as described immediately below.

Guided Mode

[0062] Guided mode eliminates standard prompt options (i.e. read, see, play, reply, forward, etc.) from the display screen of computer system 10 and instead provides only a ‘Next’ prompt in the form of a button depicting the word “Next” on the screen. Depending on the nature of the original event that caused the alert to be raised, pressing the ‘Next’
button will cause Main Application 20 to guide the sufferer through one of several preconfigured execution steps. 

[0063] For example, in case of an incoming multimedia message (text with an attached picture), the steps executed after each press on the ‘Next’ button may be: 1) causing the prompt ‘Display the Picture’ to appear on the screen, which when activated by the user, will 2) cause the prompt ‘Close the Picture’ to appear on the screen, which when activated by the user, will 3) cause the display to return to the home screen of Main Application 20.

Second Party Notification

[0064] The purpose of sending a second party notification is to inform a designated person, typically a caregiver, that the sufferer is not responding to the alerts raised by Main Application 20. In circumstances where an alert confirmation timeout period expires for a specific alert without the sufferer confirming the alert, in addition to self-reconfiguration as heretofore described, Main Application 20 will send a notification to the designated person via at least one of the following communication means:

[0065] SMS message;
[0066] Email;
[0067] Phone call with prerecorded message;
[0068] Posting on a social networking Web site like Facebook, MySpace, Twitter, etc.; and/or
[0069] Posting a message on the user interface of a remote computer accessible by the designated caretaker.

As may be appreciated, Main Application 20 may be programmed to continue to send notifications to second parties until they return an acknowledgement which, upon receipt, will cause Main Application 20 to cease further notifications pertaining to the missed alert involved.

[0070] It will be readily appreciated that while the discussion herein focuses on a particular computing arrangement, it should be understood that the invention is not limited to the particular hardware designs, software designs, communications protocols, performance parameters, or application-specific functions disclosed herein. An apparatus for making, using or selling the invention may be one or more processing systems including, but not limited to, a central processing unit (CPU), memory, storage devices, communication links and devices, servers, I/O devices, or any sub-components of one or more processing systems, including software, firmware, hardware or any combination of or subset thereof, which embody the invention as set forth in the claims. One skilled in the art of computer science will easily be able to combine the methods as described with appropriate general purpose or special purpose computer hardware/software to create a computer system or computer sub-system embodying the method of the invention.

[0071] While exemplary systems and methods embodying the present invention are shown by way of example, it will be understood, of course, that the invention is not limited to these embodiments. Modifications may be made by those skilled in the art, particularly in light of the foregoing teachings. For example, each of the elements of the aforementioned embodiments may be utilized alone or in combination with elements of the other embodiments.

What is claimed as being new, useful and desired to be protected by Letters Patent of the United States is as follows:

1. A computer implemented method for automatically delivering a series of dynamic alerts to a user and for automatically reconfiguring the user interface to compensate for changes in perceived diminished cognitive ability of the user, said method being implemented using a computer application running on a computing device having a user interface, said method comprising the steps of:

   a. delivering a series of alerts to the user on the computing device at predetermined intervals until receipt of the most recent alert is acknowledged by the user by complying with at least one of a plurality of action requests displayed on the user interface of the computing device;
   b. automatically modifying the intensity level and/or number of sensory means of at least one alert in said series of alerts; and
   c. in the event that a predetermined number of alerts go unacknowledged by the user, modifying the number and/or character of said plurality of action requests to better accommodate the user’s cognitive ability.

2. An article of manufacture embodied in a machine storage medium including data that, when accessed by a machine, causes the machine to:

   a. deliver a series of alerts to the user on the computing device at predetermined intervals until receipt of the most recent alert is acknowledged by the user by complying with at least one of a plurality of action requests displayed on the user interface of the computing device;
   b. automatically modify the intensity level and/or number of sensory means of at least one alert in said series of alerts; and
   c. in the event that a predetermined number of alerts go unacknowledged by the user, modify the number and/or character of said plurality of action requests to better accommodate the user’s cognitive ability.

3. The computer implemented method of claim 1, further including the step of notifying a second party that the user has failed to acknowledge an alert after a predetermined number of alerts have been delivered to the user, said notification being sent via at least one of the following communication means:

   a. SMS message;
   b. Email;
   c. Phone call with prerecorded message;
   d. Posting on a social networking Web site like Facebook, MySpace, Twitter, etc.; and
   e. Posting a message on the user interface of a remote computer accessible by the designated caretaker.

4. The article of manufacture of claim 2, further including data that causes the machine to notifying a second party that the user has failed to acknowledge an alert after a predetermined number of alerts have been delivered to the user, said notification being sent via at least one of the following communication means:

   a. SMS message;
   b. Email;
   c. Phone call with prerecorded message;
   d. Posting on a social networking Web site like Facebook, MySpace, Twitter, etc.; and
   e. Posting a message on the user interface of a remote computer accessible by the designated caretaker.

   * * * * *