

COMMUNICATION SYSTEM FOR DELIVERING ALERT MESSAGES

[0001] The present application relates to a communication system for delivering alert messages via a secure network.

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[0002] In known telecommunication systems, creating text messages or updating existing text messages, both of which are transmitted to various mobile communication devices in an alert mode, is disparate and decentralised.

10 [0003] For instance, in order to deliver an alert text message, a telecomm (i.e. telecommunication) service provider needs to connect to different telecomm
communication interfaces through multiple electronic devices that are manufactured by
diverse equipment producers. These multiple electronic devices have dissimilar
protocols and formats of connection and communication. Hence, delivery of the alert
15 message to the mobile communication devices via these different telecomm
communication interfaces often lead to errors or difficulties in transmission. To overcome
these problems, a telecomm service provider has to manually create, update and
verify multiple copies of the alert message by following the relevant protocols and
formats. Since the alert message will be received and displayed on numerous mobile
20 communication devices (e.g. mobile phones), the telecomm service provider faces a
daunting task of providing consistent and accurate delivery of the alert message to the
satisfactory of all users of the many mobile communication devices.

25 [0004] Essential features are provided by independent claims, whilst advantageous
features are provided their dependent claims.

[0005] Embodiments of the present invention relate to a system and/or method for
enabling messages/texts with/without rich media content support to be configurable,
updatable, and deliverable in real or deferred time, through one or more secure
30 remote host servers and user input interfaces for transmission over single or multiple
networks.

[0006] Particularly, text messages or any alert information can be independently
delivered to network-aware devices (e.g. subscribers' electronic devices), and updated

over standard network transmission protocols via a remote, securely managed interface within a network or networks. The communication system provides:

1. centralized administration and control;
2. dynamic ability to control via replacement of alert messages of static devices and devices in motion;
3. real-time access to targeted end-point network-aware device types;
4. local time synchronization no matter where on the globe the target device is located;
5. audio alert support as required when displaying the alert message;
6. single or multiple local language support as needed for alert messages as displayed on target devices;
7. platform/operating systems independence.

[0007] The communication system according to present invention is also known as a configurable message and delivery system for alert messages. The system comprises secure network connections to various alert message creation backend server sources as a first criterion. In lieu of such direct connectivity, an operator (service provider) dashboard interface can suffice that would allow the operator to manually input and create the relevant details including submission of imported file uploads for eventual delivery to the target device types. The various layers of Message Review, Standardization, and Normalization is then conducted on the raw message prior to final message preparation and packaging for delivery to the target device end-points of the devices identified singly or multiply on the designated network or networks.

[0008] According to an aspect of the invention, the present application provides a communication system that comprises a host server that is connected to a communication network, the communication network being adapted to communicate with subscriber's mobile electronic devices; and an electronic identity controller being adapted to verify electronic identifies of the mobile electronic devices. The host server is configured to dispatch messages to the subscriber's mobile electronic devices according to predetermined priorities for displaying at the subscriber's mobile electronic devices.

[0009] Particularly, the electronic identity controller is capable to recognise, compare, differentiate, remember, list and analyse electronic identities of diverse types of electronic devices. The electronic identity controller can manage individual identities, their authentication, authorization, roles, service packages and privileges inside or across system and enterprise boundaries with the goal of increasing security and productivity while decreasing cost, downtime, and repetitive tasks. These individual identities sometimes are conveniently checked via electronic devices that are used by the individuals personally. The electronic identities further comprises electronic addresses accessible by people via their electronic devices. For convenience, the identity of an individual may be verified by a telephone number accessible by the individual via his mobile phone. Here, the telephone number is electronically encoded signals, which may be read as a series of numbers.

[0010] The accompanying figures (Figs.) illustrate embodiments and serve to explain principles of the disclosed embodiments. It is to be understood, however, that these figures are presented for purposes of illustration only, and not for defining limits of relevant inventions.

[0011] Fig. 1 illustrates a schematic view of a communication system according to a preferred embodiment of the present invention; and
Fig. 2 illustrates a flow chart showing notification and message flow according to the preferred embodiment.

[0012] Exemplary, non-limiting embodiments of the present application will now be described with references to the above-mentioned figures.

[0013] According to an aspect of the present invention, there is provided a communication system comprising of a secure remote host server and a storage medium. The storage medium is adapted to be installed in one or more communication devices. The secure remote host server has an administration control with an user interface for allowing user to input new message and/or to modify old message. The secure remote host server is connected to one or more carrier's network so that the secure remote host server is in communication with the storage

medium such that a message is transmittable from the secure remote host server to the storage medium.

[0014] Fig. 1 shows the schematic view of communication system according to a preferred embodiment. In the preferred embodiment, the secure remote host server 102 is in communication with the storage medium 104 via a secure network. The secure remote host server 102 is also known as message backend server. In other embodiments, other forms of secured connection is applicable as well.

[0015] In the preferred embodiment, the storage medium 104 is in the form of a flash memory (non-volatile computer storage medium) installed with an application software and/or operating system in a communication device 106.

[0016] The secure remote host server 102 has an administration control with an user interface for allowing user to enter new messages and/or to modify old messages. In the preferred embodiment, the user interface is in the form of an operator dashboard interface which allow the user to manually input and create relevant details including submission of imported file uploads for eventual delivery to the communication device 106.

[0017] In the preferred embodiment, the storage medium 104 comprises of a content management module for allowing the user to manage the content or message. In particular, the content management system comprises of a message review layer 106, a standardization layer 108, a normalisation layer 110 and a message preparation and push layer with audio support 112. These layers 106, 108, 110, 112 are sequentially connected.

[0018] The message review layer 106 is provided to allow the message to be displayed for viewing by a service provider. The message can be in the form of audio, document, game, ringtone, video, wallpaper, image, text, web view, SMS (atype), SSD (atype).

[0019] The standardization layer 108 is provided to allow all messages to be displayed in a standardised format. For instance, the message can be displayed with or without a rich media content support depending on the preference of the user.

5 [0020] The normalization layer 110 modifies and adapts the messages to specific formats in order to be shown correctly at diverse types of target electronic devices, although the messages also come from multiple sources.

10 [0021] The message preparation and push layer 112 is provided to allow the messages to be prepared for viewing and for closing the messages after viewing. An audio support feature is provided to allow the messages to be convertible into one or more audio formats.

15 [0022] In other embodiments, the content management system may comprises of other layers with other functional features.

20 [0023] In the preferred embodiment, the application software on the storage medium 104 further comprises one or more language support functions for configuring the messages according to preferences of users or target electronic devices.

[0024] The communication device 106 is usually a network device which may be a static or in motion.

25 [0025] Fig. 2 is a flow chart showing the notification and message flow according to a preferred embodiment of the present invention.

[0026] Step 202 shows that the administrator release the notification or message from the secure remote host server (message backend server).

30 [0027] Step 204 shows that the message with content enabled by the administrator will be received by the application software. Notification for the same will be available on the communication device.

[0028] Step 206 shows that the user click the notification on his respective handset to open the notification or message.

5 [0029] Step 208 shows that the user can perform the action based on the notification received.

10 [0030] In the application, unless specified otherwise, the terms "comprising", "comprise", and grammatical variants thereof, intended to represent "open" or "inclusive" language such that they include recited elements but also permit inclusion of additional, non-explicitly recited elements.

15 [0031] As used herein, the term "about", in the context of concentrations of components of the formulations, typically means +/- 5% of the stated value, more typically +/- 4% of the stated value, more typically +/- 3% of the stated value, more typically, +/- 2% of the stated value, even more typically +/- 1% of the stated value, and even more typically +/- 0.5% of the stated value.

20 [0032] Throughout this disclosure, certain embodiments may be disclosed in a range format. The description in range format is merely for convenience and brevity and should not be construed as an inflexible limitation on the scope of the disclosed ranges. Accordingly, the description of a range should be considered to have specifically disclosed all the possible sub-ranges as well as individual numerical values within that range. For example, description of a range such as from 1 to 6 should be considered to have specifically disclosed sub-ranges such as from 1 to 3, 25 from 1 to 4, from 1 to 5, from 2 to 4, from 2 to 6, from 3 to 6 etc., as well as individual numbers within that range, for example, 1, 2, 3, 4, 5, and 6. This applies regardless of the breadth of the range.

30 [0033] It will be apparent that various other modifications and adaptations of the application will be apparent to the person skilled in the art after reading the foregoing disclosure without departing from the spirit and scope of the application and it is intended that all such modifications and adaptations come within the scope of the appended claims.

Claims

1. A communication system comprising:
 - a host server that is connected to a communication network, the communication network being adapted to communicate with subscriber's mobile electronic devices;
 - an electronic identity controller being adapted to verify electronic identifies of the mobile electronic devices;wherein the host server is configured to dispatch messages to the subscriber's mobile electronic devices according to predetermined priorities for displaying at the subscriber's mobile electronic devices.
2. The communication system of Claim 1, wherein the host server is adapted to configure the subscriber's mobile electronic devices via the communication network for setting the highest priority for displaying the messages from the host server.
3. The communication system of Claim 1 or 2, wherein the host server comprises a SMS (Short Message Service) Gateway, a IVR (Interactive Voice Response) Server, a WAP (Wireless Application Protocol) Server, a Content Hub, an application server or a combination of any of these.
3. The communication system of Claim 1 or 2, wherein the communication network comprises a telecomm network, a WiFi network, an internet, an optical fibre network, an electrical cable network or a combination of any of these.
4. The communication system of any of the preceding Claims, wherein the host server further comprises a content management module.
5. The communication system of Claim 4, wherein the content management module comprises a message review layer, a standardization layer, a normalisation layer and a message preparation and push layer that are sequentially connected.

6. The communication system of any of the preceding Claims, wherein the host server further comprises at least one automatic translator for converting the messages to a predetermined language.
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7. The communication system of any one of the preceding Claims, wherein the messages comprise audio data, computer document, electronic games, ringtones, video data, pictures, texts, web view, SMS (atype), SSD (atype).
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8. A non-transient computer readable medium containing program instructions for causing a computer to perform the method of:
- communicating with subscriber's mobile electronic devices via a communication network;
 - verifying electronic identities of the subscriber's mobile electronic devices;
 - 15 – configuring display priority of the subscriber's mobile electronic devices; and
 - dispatching messages to the subscriber's mobile electronic devices according to the priority.
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9. The non-transient computer readable medium of Claim 8, wherein the configuring further comprises installing a computer program onto the subscriber's mobile electronic device for handling the messages.
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10. The non-transient computer readable medium of Claim 8 or 9, wherein the configuring further comprises downloading the messages automatically by the subscriber's mobile electronic devices.
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11. A method of delivering messages to subscriber's mobile electronic devices via communication network, the method comprising;
- obtaining electronic identities of the subscriber's mobile electronic devices;
 - verifying the electronic identities by a host server automatically;

- configuring priority of message display at the subscriber's mobile electronic devices;
- dispatching the messages according to configured priority.

- 5 12. The method of Claim 11 further comprising
installing a computer program at a subscriber's mobile electronic device for
handling the message.
- 10 13. The method of Claim 11 or 12 further comprising
downloading or displaying the messages at the subscriber's mobile electronic
device according to predetermined schedule automatically.
- 15 14. The method of any of the preceding Claims 11 to 13 further comprising
adapting the messages according to the communication network, the
subscriber's mobile electronic device or a combination of both.
15. The method of any of the preceding Claims 11 to 14 further comprising
receiving an electronic response from the subscriber's mobile electronic device.

Abstract

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5 A communication system comprises a host server that is connected to a communication network, the communication network being adapted to communicate with subscriber's mobile electronic devices; and an electronic identity controller being adapted to verify electronic identifies of the mobile electronic devices. The host server is configured to dispatch messages to the subscriber's mobile electronic devices
10 according to predetermined priorities for displaying at the subscriber's mobile electronic devices.

[Fig. 1]