

message does not exceed the maximum text message size. One way to shorten the text message is to use abbreviations. For example, the words “For example” can be changed to “e.g.”. Such conversion can be again be performed by matching entries in tables. Another way to shorten is to remove non-essential text. Still another way to shorten is to clip off or truncate the text message at the maximum text message size. In another embodiment, the resulting text message might provide an indication that it was converted from an audio message. Following the block 710, the text message is transmitted 712 over a wireless network.

[000109] Alternatively, when the decision 704 determines that a text message is to be formed, then a text entry screen is displayed 714. Next, a decision 716 determines whether a text message has been entered. When the decision 716 determines that a text message has not yet been entered, then the reply message process 700 awaits entry of the text message. Once the text message has been entered, the text message is transmitted 712 over the wireless network. Following the block 712, the reply message process 700 ends.

[000110] Although the reply message process 700 provides for the user to enter a custom text or audio message, it should be understood that the reply message can alternatively be formed through use of semi-custom or predetermined reply messages from which the user of the mobile communication device can choose. The use of semi-custom or predetermined reply messages can be achieved as noted above in a number of embodiments, and can serve to simplify the conversion process.

[000111] An exemplary scenario of how message presentation and reply message processes could work according to one implementation of the second aspect is as follows:

[000112] 1. From his mobile phone, Bill prepares and sends a text message to Tom’s mobile phone.

[000113] 2. Tom is alerted by his mobile phone of an incoming text message, such as by displaying at least a portion of the text message and/or otherwise notifying Tom of the text message.

[000114] 3. Tom's mobile phone can decide whether to present the text message on a display screen of Tom's mobile phone, or to first convert the text message to an audio message and then present the audio message to Tom (e.g., play the audio message). Of course, Tom can interact with Tom's mobile phone to assist in making the determination on how to present the message.

[000115] 4. Thereafter, if desired, Tom can prepare and send a reply message back to Bill. This reply message can be prepared initially as a text message or an audio message. Tom's mobile phone and/or Tom can determine whether the reply message is initially prepared as a text message or as an audio message. If an audio message is initially created, such audio message must be converted to a text message prior to transmission. Eventually, the reply message is sent to Bill as a text message. Tom's mobile phone can assist with the creation of the reply message through use of custom, semi-custom or predetermined reply message from which Tom and/or Tom's mobile phone can choose.

[000116] 5. If Tom is using a head-set with his mobile phone, then an audio message may be more convenient, assuming that Tom wants to provide a particular (i.e., customized) message to Bill. The head-set allows Tom to easily record a brief audio message. Less conveniently, the head-set can be used to present a list of predetermined audio messages and allow Tom's selection therefrom by a button or voice-command.

[000117] 6. If Tom is not using a head-set, then a text message response might be more suitable. This would typically require that Tom's mobile phone have a display and a keypad. Even so, without a head-set, Tom could still record an audio message, though such would likely be less convenient.

[000118] 7. Tom can also not provide a reply message and simply not respond to the incoming text message. Alternatively, Tom can configure his mobile phone to automatically produce and send a reply message based on user settings or preferences, position, configuration, status, etc.

[000119] In this aspect of the invention, the calling party and the called party often use mobile communication devices, such as mobile phones. However, the

parties can alternatively use other electronic devices, such as a PDA, a computer, etc.

[000120] The advantages of the invention exemplified by FIGs. 11-12 are numerous. Different embodiments or implementations may yield different advantages. One advantage is that communications for users of electronic devices can be flexibly provided. Another advantage is that communication mode changes can be performed at an electronic device to better suit the needs or condition of the electronic device or user preferences. Still another advantage is that conversion of an audio message to a text message facilitates use a low cost network (such as the SMS network). Another advantage is reduced network bandwidth load. Yet still another advantage is that the sender can get back a message in the same format as they sent the original message, though the recipient may use the message in a different format or mode (e.g., recipient hears the text message as an audio message).

[000121] Moreover, it should be noted that with regards to any of the embodiments in which a voice call or a text message is incoming to an electronic device, not only can the user of the mobile device take an action (e.g., button press or voice-command) to decline the call/message but also the electronic device itself can automatically decline the call/message such that the user is not disturbed. For example, an electronic device can be configured through user settings (e.g., preferences) to decline calls/messages matching certain criteria. Also, an auto reply message can be configured to be automatically sent in response to the call/message. For a known, undesired marketing caller/message sender, the electronic device can automatically send a reply message demanding the sender not to call or send messages anymore, and to remove your information from their database.

[000122] Text messages received or sent can optionally embed indications of speech characteristics to be used, should the text message be converted to an audio format. The speech characteristics can pertain to voice, tone, pace, accent, and/or mood. The speech characteristics for the resulting speech can be set in

preference or configuration information, set on a per message basis by users, or set by evaluation of monitored data pertaining to the user.

[000123] Additionally, the messages being transmitted can be encrypted for security purposes.

[000124] In one embodiment, an electronic device performing communications using audio and/or text messages according to the invention can further integrate (or have tethered thereto) one or more electrical components for enhancing the hearing of the user of the electronic device. The electronic device will normally include a microphone and a speaker. The invention described herein can be considered an automated secretary for a user of an electronic device. The automated secretary can completely or partially respond to an incoming call/message so as to reduce disturbances to the user. The user can personalize the automated secretary through user settings (e.g., preferences), or the automated secretary can learn over time how to handle different incoming calls/messages. Besides handling or assisting the user with incoming calls/messages, the automated secretary can also assist with other activities, such as making calendar entries (e.g., meetings) in a calendar or responding to incoming callers/messages with relevant information pertaining to the user's schedule as maintained by the calendar (though the user could restrict such access to certain information and/or inquiring parties). For example, if an incoming text message asks "available for lunch today?", the automated secretary can check the user's availability for lunch by way of the user's calendar, then if the user is not available the automated secretary can quickly informing the inquiring party of same or propose another date. On the other hand, if the lunch time period is available in the user's calendar, then the automated secretary can either directly respond to the inquiring party of acceptance or propose a response to the user for review, modification and/or transmission.

[000125] It should be obvious to those skilled in the art that a number of embodiments performing communications using voice as well as audio and/or text messages can be implemented using voice over Internet Protocol technologies,

with signals delivered over the Web. For example, a calling party's communication or mobile device can include an adapter to convert voice signals to data packets before sending them over the Internet. A service provider can convert the packets back into voice signals before sending the voice signals to the called party's communication device. Similarly, embodiments can be implemented using voice over wireless protocols, such as Wi-Fi or Wi-Max networks. Using such technologies, computing devices can become communication devices.

[000126] The various embodiments, implementations, features and aspects of the invention noted above can be combined in various ways or used separately. Those skilled in the art will understand from the description that the invention can be equally applied to or used in other different settings with respect to various combinations, embodiments, implementations or features provided in the description herein.

[000127] The invention can be implemented in software, hardware or a combination of hardware and software. A number of embodiments of the invention can also be embodied as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data which can thereafter be read by a computer system. Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, magnetic tape, optical data storage devices, and carrier waves. The computer readable medium can also be distributed over network-coupled computer systems so that the computer readable code is stored and executed in a distributed fashion.

[000128] Numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, it will become obvious to those skilled in the art that the invention may be practiced without these specific details. The description and representation herein are the common meanings used by those experienced or skilled in the art to most effectively convey the substance of their work to others skilled in the art. In other instances, well-known methods, procedures, components, and circuitry have not been described in detail to avoid unnecessarily obscuring aspects of the present invention.

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