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<b>INVENTOR(S)</b>		
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<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto		
<b>TITLE OF THE INVENTION (500 characters max)</b>		
ADAPTABLE COMMUNICATION TECHNIQUES FOR ELECTRONIC DEVICES		
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<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.	<b>FILING FEE AMOUNT (\$)</b>  <span style="border: 1px solid black; padding: 5px; font-size: 1.2em;">\$80.00</span>	
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Respectfully submitted,

SIGNATURE

TYPED or PRINTED NAME

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Date

12/03/2003

REGISTRATION NO.  
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32,947

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## ADAPTABLE COMMUNICATION TECHNIQUES FOR ELECTRONIC DEVICES

### FIELD OF THE INVENTION

**[0001]** The present invention relates to electronic devices and, more particularly, to communication techniques for electronic devices.

### BACKGROUND OF THE INVENTION

**[0002]** Typically, to participate in wireless communications, a user holds a mobile phone (e.g., wireless or a cellular phone) against his ear to hear an audio communication received in a wireless manner. The user usually also speaks towards a microphone embedded in the mobile phone to participate in the audio communication, again in a wireless manner. More recently, to facilitate hands-free operation of mobile phones, head-sets have been produced and utilized. Typically, a headset clips over or into an ear of the user to provide a speaker and a microphone in proximity to the ear and the mouth, respectively, of the user. Traditionally, the head-set was connected to the mobile phone by a cord (i.e., wire). In recent times, head-sets have been developed to operate in a wireless manner, without the need of a cord connected to the mobile phone. For example, one popular type of wireless head-set uses Bluetooth wireless transmissions to communicate between the head-set and the corresponding mobile phone.

**[0003]** Mobile phones often support both voice calls and text messaging. When the user does not make use of a head-set, the user often holds the mobile phone against their ear when participating in a voice call. One problem this presents is that the user is not able to see the screen of the mobile phone. As a result, the user has difficulty interacting with the keypad or screen of the mobile phone when the mobile phone is held against the user's head. Alternatively, when the user of a mobile phone makes use of a head-set, the user can receive and participate in voice



calls in a hands-free manner. Unfortunately, however, the user would need to view a screen of the mobile phone to participate in text messaging.

**[0004]** Accordingly, there is a need for improved wireless communication techniques for users of mobile communication devices.

#### SUMMARY OF THE INVENTION

**[0005]** The invention pertains to improved approaches for users of electronic devices to communicate with one another. The electronic devices have audio and/or textual output capabilities. The improved approaches can enable users to communicate in different ways depending on device configuration, user preferences, prior history, etc. In one embodiment, the communication between users is achieved by short audio or textual messages.

**[0006]** According to a first aspect, improved approaches to respond to incoming voice calls are disclosed. The improved approaches enable a called party to provide some information to a calling party without directly engaging in a voice call with the calling party. The called party can choose not to take the voice call from the calling party. Instead, the called party can provide the calling party with some limited information. The limited information can be provided in an audio or textual format. In one embodiment, the limited information provides the calling party with feedback as to why the voice call was not taken.

**[0007]** According to a second aspect, improved approaches to respond to an incoming text message are disclosed. The improved approaches enable a recipient to provide a reply message to an initiator. The incoming text message can be presented to the recipient with an audio or textual presentation. Thereafter, a reply text message can be sent back to the initiator. The recipient can form the reply text message by recording a brief audio message or entering a text message. In the case in which a brief audio message is used, the audio message can be automatically converted to a text message before being transmitted to the initiator.

**[0008]** The electronic device can be a computing device, such as a personal computer, a personal digital assistant, or a communications device. One example of a communications device is a mobile telephone.

**[0009]** The invention can be implemented in numerous ways, including as a method, system, device, apparatus, and a computer readable medium. Several embodiments of the invention are discussed below.

**[0010]** Other aspects and advantages of the invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings which illustrate, by way of example, the principles of the invention.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0011]** The invention will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

**[0012]** FIG. 1 is a communication system according to one embodiment of the invention.

**[0013]** FIG. 2 is a flow diagram of a personal call response process according to one embodiment of the invention.

**[0014]** FIG. 3 is a flow diagram of an audio message response process according to one embodiment of the invention.

**[0015]** FIG. 4 is a flow diagram of a text message response process according to one embodiment of the invention.

**[0016]** FIG. 5 is a flow diagram of an automated call response process according to one embodiment of the invention.

**[0017]** FIG. 6 is a flow diagram of a message presentation process according to one embodiment of the invention.

**[0018]** FIG. 7 is a flow diagram of a reply message process according to one embodiment of the invention.



## DETAILED DESCRIPTION OF THE INVENTION

**[0019]** The invention pertains to improved approaches for users of electronic devices to communicate with one another. The electronic devices have audio and/or textual output capabilities. The improved approaches can enable users to communicate in different ways depending on device configuration, user preferences, prior history, etc. In one embodiment, the communication between users is achieved by short audio or textual messages.

**[0020]** The electronic device can be any computing device having communication capabilities. Such computing devices can be referred to as communication devices. Examples of electronic devices include personal computers, personal digital assistants, pagers or mobile telephones.

**[0021]** Embodiments of the invention are discussed below with reference to FIGs. 1 – 7. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes as the invention extends beyond these limited embodiments.

**[0022]** FIG. 1 is a communication system 100 according to one embodiment of the invention. The communication system 100 can support different communication devices, including mobile telephones 102, computers 104 (e.g., personal computers) and/or wireless personal digital assistants (PDAs) 106. Users of the communication devices 102-106 can communicate with like or different communication devices. Each communication device 102-106 offers one or both of audio or textual communication capabilities. These communication devices 102-106 can inter-communicate with one another through a network 108. The network 108 can include one or more of voice networks and data networks. For example, one network is a data network providing a slow speed data channel for transmission of Short Message Service (SMS) messages (which are typically limited to 160 text characters) to a Short Message Service Center (SMSC) and then forwarded on to the destination. Besides short messages (e.g., SMS messages), the network 108 can also support other messaging protocols for sending and receiving enhanced

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