AUTOMATED COMPUTER ELECTRONICS DEVICE REPORTING

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ABSTRACT

A system for generating and submitting reports about consumer electronics devices, including a consumer electronics device, including a host interface, for connecting a wireless communication card to a consumer electronics device, and a host memory storage unit, for storing technical information and usage information about the consumer electronics device, denoted INF-1, and a wireless communication card, including a controller, for executing programmed instructions, a power subsystem for supplying power to the communication card, a wireless modem coupled with the controller for receiving and transmitting data over the air, and a card interface for connecting the communication card to the consumer electronics device, wherein the controller is programmed to collect information INF-1, to generate a report including at least a portion of information INF-1, to collect recipient address information, denoted INF-2, and to submit the report to a recipient address as per information INF-2, via the wireless modem, over a wireless communication network that connects the communication card and the recipient. A method is also described and claimed.
FIG. 4
FIG. 7
DEVICE SOFTWARE/FIRMWARE PROVISIONING

810

COMMUNICATION CARD IS ATTACHED TO A PLURALITY OF CE DEVICES AND JACKETS

820

COMMUNICATION CARD COLLECTS INFORMATION RELATING TO THE PLURALITY OF CE DEVICES AND JACKETS

830

COMMUNICATION CARD MAINTAINS COLLECTED INFORMATION IN A HISTORY LOG

840

UPON CONNECTION OF COMMUNICATION CARD TO A PC, THE PC REPORTS THE HISTORY LOG TO ONE OR MORE REMOTE UPDATE SERVERS

850

REMOTE UPDATE SERVERS TRANSMIT NEW VERSIONS OF SOFTWARE/FIRMWARE TO COMMUNICATION CARD, AS APPROPRIATE FOR THE PLURALITY OF CE DEVICES AND JACKETS

860

UPON SUBSEQUENT ATTACHING OF COMMUNICATION CARD TO ANY OF THE PLURALITY OF CE DEVICE AND JACKETS, THE UPDATED VERSIONS ARE AUTOMATICALLY INSTALLED ON THE CE DEVICE OR JACKET

FIG. 8
AUTOMATED COMPUTER ELECTRONICS DEVICE REPORTING

PRIORITY REFERENCE TO RELATED APPLICATIONS

[0001] This application claims benefit of U.S. Provisional Application No. 60/995,575, entitled AUTOMATED CONSUMER ELECTRONICS DEVICE REPORTING, filed on Sep. 26, 2007 by inventors Itay Sherman, Eyal Bychkov, Uri Ron, Hagay Katz and Hagit Perry. This application also claims benefit of U.S. Provisional Application No. 61/062, 171, entitled MODULAR WIRELESS COMMUNICATOR, filed on Jan. 23, 2008 by inventors Itay Sherman, Eyal Bychkov, Itay Cohen, Tami Demri, Hagay Katz, Eran Miller, Hagit Perry, Uri Ron and Yaron Segalov. This application also claims benefit of U.S. Provisional Application No. 61/063, 668, entitled MODULAR WIRELESS COMMUNICATOR, filed on Feb. 5, 2008 by inventors Dov Moran, Itay Sherman, Eyal Bychkov, Itay Cohen, Yaron Segalov, Tami Demri, Eran Miller, Uri Ron, Hagay Katz and Hagit Perry. This application also claims benefit of U.S. Provisional Application No. 61/080,264, entitled AUTOMATED CONSUMER ELECTRONICS DEVICE REPORTING, filed on Jul. 13, 2008 by inventors Itay Sherman, Eyal Bychkov, Uri Ron, Hagay Katz and Hagit Perry.

FIELD OF THE INVENTION

[0002] The field of the present invention is wireless communication.

BACKGROUND OF THE INVENTION

[0003] Consumer electronics manufacturers and retailers, service providers, and accessory merchandise sellers, benefit greatly from keeping in touch with purchasers of consumer electronics devices and from being informed of consumer usage behavior for the devices. By keeping in touch with purchasers, they are able to offer the purchasers related goods and services. For example, a purchaser of a digital camera is a potential candidate for buying a newer model of the camera. If the memory card in the camera often fills up, the purchaser is a potential candidate for buying a larger memory card. The purchaser is also a potential candidate for services, such as training courses in photography.

[0004] Currently, reporting of purchaser information for consumer electronics devices, and reporting of consumer usage behavior is limited. Often the devices do not have convenient network connectivity, and relevant information is reported manually by contacting a purchaser by phone, e-mail, Internet web-site, or when the purchaser visits a store, or by conducting surveys. Moreover, even for devices that do have convenient network connectivity, such connectivity is typically used for uploading and downloading files, and for device settings, but not for submitting reports about the devices.

[0005] Reporting of purchaser information is voluntary, and often such information is not reported due to lack of time. In some cases purchasers report information because of incentives; for example, to activate a warranty, or to receive a gift.

[0006] Nevertheless, even when reports are provided, reporting of consumer information is limited and does not provide usage behavior information.

SUMMARY OF THE DESCRIPTION

[0007] Aspects of the present invention enable automated generation and submission of reports about consumer electronics devices. The reports may include technical information about a device, personal information about the owner of the device, and information describing the owner’s usage of the device. According to an embodiment of the present invention, generation and submission of reports is enabled by connecting a wireless transmitter in the form of a communication card to consumer electronics devices.

[0008] The consumer electronics devices supported by the present invention are of many types, including inter alia cameras, media players, computers, home entertainment systems, home appliances, kitchen appliances, and electric tools.

[0009] The consumer electronics devices generally include memories that store technical and usage information about the devices, and the communication card includes a memory that stores information about the owner of the devices. When connected to a device, the communication card automatically generates and sends reports about the device and about the owner of the device and about the owner’s usage behavior, to one or more appropriate recipients, including inter alia sellers and manufacturers of the device, and technical support centers.

[0010] Report generation and submission for an electronics device may be automatically initiated when one or more pre-designated events involving the device occur, may be scheduled periodically, and may be manually initiated either by the owner of the device or by a remote recipient of the report.

[0011] Reports may be sent to recipients in the form of SMS messages, MMS messages, e-mail messages, voice messages, or other such GPRS or IP network messages. In addition, the communication card may open voice channels, thereby enabling owners of devices to speak directly with recipients.

[0012] The present invention applies to a wide variety of different types of reports, including inter alia registration of electrical appliances, maintenance and diagnostic reports, and marketing-based consumer reports.

[0013] The present invention also applies to access control security, whereby an electronics device only operates if an authorized communication card is connected thereto. Moreover, if the consumer device is reported as being missing or stolen, then it does not operate at all, even if an authorized communication card is connected thereto.

[0014] Further aspects of the present invention apply to jacket covers for communication cards. A “jacket” is a passive device that operates only in combination with the communication card. A jacket generally does not have its own processor. A jacket may include one or more of a keypad, display, microphone, speaker, earpiece, headset port and USB port. A jacket is connected to a communication card via dedicated connector having a communication bus. Using the present invention, reports may be automatically generated and submitted about jackets and their usages.

[0015] There is thus provided in accordance with an embodiment of the present invention a system for generating and submitting reports about consumer electronics devices, including a consumer electronics device, including a host
interface, for connecting a wireless communication card to a consumer electronics device, and a host memory storage unit, for storing technical information and usage information about the consumer electronics device, denoted INF-1, and a wireless communication card, including a controller, for executing programmed instructions, a power subsystem for supplying power to the communication card, a wireless modem coupled with the controller for receiving and transmitting data over the air, and a card interface for connecting the communication card to the consumer electronics device, wherein the controller is programmed to collect information INF-1, to generate a report including at least a portion of information INF-1, to collect recipient address information, denoted INF-2, and to submit the report to a recipient address as per information INF-2, via the wireless modem, over a wireless communication network that connects the communication card and the recipient.

There is additionally provided in accordance with an embodiment of the present invention a method for generating and submitting reports about consumer electronics devices, including storing technical and usage information about a host consumer electronics device, denoted INF-1, in a storage unit of the device, connecting a wireless communication card to the consumer electronics device, collecting, by the communication card, information INF-1, and recipient address information, denoted INF-2, when the communication card is connected to the consumer electronics device, generating a report about the consumer electronics device, the report including at least a portion of information INF-1, and submitting the report to a recipient address as per information INF-2, via the wireless modem, over a wireless communication network that connects the communication card and the recipient.

There is further provided in accordance with an embodiment of the present invention a system for generating and submitting reports about consumer electronics devices, including a consumer electronics device, including a host interface, for connecting a wireless communication card to a consumer electronics device, and a host memory storage unit, for storing technical information and usage information about the consumer electronics device, denoted INF-1, and a wireless communication card, including a controller, for executing programmed instructions, a power subsystem for supplying power to the communication card, a wireless modem coupled with the controller for receiving and transmitting data over the air, and a card interface for connecting the communication card to the consumer electronics device, wherein the controller is programmed to collect information INF-1, to retrieve personal information about an owner of the consumer electronics device, denoted INF-3, from a network computer, to generate a report including at least a portion of information INF-1 and INF-3, to collect recipient address information, denoted INF-2, and to submit the report to a recipient address as per information INF-2, via the wireless modem, over a wireless communication network that connects the communication card, the network computer, and the recipient.

There is yet further provided in accordance with an embodiment of the present invention a method for generating and submitting reports about consumer electronics devices, including storing technical and usage information about a host consumer electronics device, denoted INF-1, in a storage unit of the device, connecting a wireless communication card to the consumer electronics device, collecting, by the communication card, information INF-1, and recipient address information, denoted INF-2, when the communication card is connected to the consumer electronics device, retrieving, by the communication card, personal information about an owner of the consumer electronics device, denoted INF-3, from a network computer, generating a report about the consumer electronics device, the report including at least a portion of information INF-1 and INF-3, and submitting the report to a recipient address as per information INF-2, by the communication card, over a wireless communication network that connects the communication card, the network computer, and the recipient.

There is moreover provided in accordance with an embodiment of the present invention a system for generating and submitting reports about consumer electronics devices, including a wireless communication card, including a controller, for executing programmed instructions, a power subsystem for supplying power to the communication card, and a wireless modem coupled with the controller for receiving and transmitting data over the air, an electronics jacket that attaches as a cover over the communication card, including a user interface for the communication card, and a jacket memory storage unit, for storing usage information about the communication card, denoted INF-1, and a connector for connecting the jacket to the communication card, including a communication bus, wherein the controller is programmed to collect information INF-1, to generate a report including at least a portion of information INF-1, to collect recipient address information, denoted INF-2, and to submit the report to a recipient address as per information INF-2, via the wireless modem, over a wireless communication network that connects the communication card and the recipient.

There is additionally provided in accordance with an embodiment of the present invention a wireless communicator, including an interface configured to enable the wireless communicator to connect to an electronic device and to enable data to be transferred between the wireless communicator and the electronic device, the electronic device having device information, a wireless modem configured to transmit and receive data from time to time when the wireless communicator is connected to the electronic device and from time to time when the wireless communicator is not connected to the electronic device, a memory storing personal information about a user of the wireless communicator, and a controller coupled with the interface, the wireless modem and the memory, the controller configured to receive the device information from the electronic device when the electronic device is connected to the wireless communicator, to generate a report including at least a portion of the personal information and at least a portion of the device information, and to cause the wireless modem to transmit the report to a recipient.

There is further provided in accordance with an embodiment of the present invention a wireless communicator including an interface configured to enable the wireless communicator to connect to a plurality of different electronic devices and to enable data to be transferred between the wireless communicator and the plurality of different electronic devices, wherein each of the plurality of different electronic devices has device information, a wireless modem configured to transmit and receive data from time to time when the wireless communicator is connected to one of the plurality of different electronic devices and from time to time when the wireless communicator is not connected to any of the plurality of different electronic devices, a memory storing personal information about a user of the wireless communicator.
There is further provided in accordance with an embodiment of the present invention a method for generating and submitting reports about consumer electronics devices, including storing technical and usage information about a host consumer electronics device, in a storage unit of the device, storing personal information about an owner of the consumer electronics device, in a storage unit of a wireless communication card, connecting the wireless communication card to the consumer electronics device, collecting, by the communication card, the technical and usage information, when the communication card is connected to the consumer electronics device, automatically opening a TCP connection with a server computer, by the communication card, and automatically transmitting at least a portion of the technical, usage and personal information to the server computer, by the communication card.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be more fully understood and appreciated from the following detailed description, taken in conjunction with the drawings in which:

FIG. 1 is a simplified illustration of an exemplary GSM communication network, within which a wireless communication card transmits information about a consumer electronics device to remote sites, in accordance with an embodiment of the present invention;

FIG. 2 is a simplified illustration of an exemplary CDMA communication network, within which a wireless communication card transmits information about a consumer electronics device to remote sites, in accordance with an embodiment of the present invention;

FIG. 3 is a simplified illustration of an exemplary WiFi communication network, within which a wireless communication card transmits information about a consumer electronics device to remote sites, in accordance with an embodiment of the present invention;

FIG. 4 is an illustration of a the wireless communication card of FIGS. 1-3;

FIG. 5 is a simplified block diagram for the communication card and host consumer electronics device of FIGS. 1-3, in accordance with an embodiment of the present invention;

FIG. 6 is a simplified block diagram of an automated report generation and submission system for a communication card and a jacket, in accordance with an embodiment of the present invention;

FIG. 7 is a simplified flowchart of a method for automated consumer electronics device reporting for the host CE device of FIGS. 1-3, using the communication card of FIGS. 1-3, in accordance with an embodiment of the present invention;

FIG. 8 is a simplified flow chart of a method for provisioning software and firmware updates to a plurality of CE devices and jackets using the communication card, in accordance with an embodiment of the present invention; and

FIG. 9 is a simplified block diagram of a web-based data collection system for a communication card and consumer electronics device, in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION

Aspects of the present invention relate to a communication card that attaches to one or more consumer electron-
ics devices. When attached to an electronics device, the communication card collects information about the device and its usage. The communication card generates reports about the device, and sends the reports to appropriate recipients.

**[0037]** The communication card of the present invention operates within a variety of wireless communication networks, including inter alia GSM, CDMA and WiFi. These exemplary networks are respectively illustrated in FIGS. 1-3 hereinafter.

**[0038]** Reference is now made to FIG. 1, which is a simplified illustration of an exemplary GSM communication network 100, within which a wireless communication card 105 transmits information about a consumer electronics (CE) device 110 to remote sites, in accordance with an embodiment of the present invention. CE device 110 acts as a host for communication card 105, and may be connected to communication card 105 using either a physical or a wireless connection.

**[0039]** Communication network 100 is a General Packet Radio Service (GPRS) network. GPRS is a packet-switched service for the Global System for Mobile Communications (GSM), similar to the Internet. GPRS provides packet data access for mobile GSM users. GPRS also supports Wireless Application Protocol (WAP) services.

**[0040]** CE device 110 may be any of a wide variety of devices. CE device 110 may be an entertainment device, including inter alia a home entertainment center, a play station, a multimedia player, a television, an audio system and a DVD player. CE device 110 may be a communication device, including inter alia a telephone, a fax machine and a cell phone. CE device 110 may be a piece of office equipment including inter alia an office computer, and printer and a scanner. CE device 110 may be a home appliance including inter alia a refrigerator, a microwave oven, a stove, a washing machine, a drying machine, an air conditioner. CE device 110 may be a consumer appliance including inter alia a personal computer, a personal data assistant (PDA), an automobile, a treadmill and a camera.

**[0041]** Details of communication card 105 and CE device 110 are described hereinafter with reference to FIGS. 4-7.

**[0042]** Communication card 105 communicates with a base transceiver station (BTS) 115 via an over-the-air interface. Base transceiver stations are components of communication network 100 that terminate the over-the-air interface, over which subscriber traffic is communicated to and from communication card 105. Communication network 100 also includes a base station controller (BSC) 120. Base station controllers are switching modules that provide handoff functions and power level control in base transceiver stations.

**[0043]** BSC 120 is controlled by a mobile switching center (MSC) 125. MSC 125 performs functions of a landline network switching node, including search, signal path switching, and processing of supplementary services. When a request is made for connecting to a subscriber in a landline network, the request is forwarded by MSC 125 to the landline network over a switching path.

**[0044]** BSC 120 controls the interface between MSC 125 and BTS 115, and, as such, controls BTS 115 in call set-up, signaling, and use of radio channels. BSC 120 also controls the interface between a serving GPRS support node (SGSN) 130 and BTS 115.

**[0045]** SGSN 130 services communication card 105 by sending or receiving packets via a base station subsystem (BSS), and more specifically via BSC 120, in the context of GSM systems. SGSN 130 is responsible for delivery of data packets to and from communication card 105, within a service area. SGSN 130 also performs packet routing and transfer, mobility management, local link management, authentication and charging functions.

**[0046]** In order to accommodate a multitude of services, a provider of communication network 100 stores various types of data. The provider must know which subscribers are using communication network 100, and which services the subscribers use. Subscriber profiles, such as the International Mobile Subscriber Identity Number (IMSI) of GPRS subscribers registered with SGSN 130, are stored in a home location registry (HLR) 135. The owner of communication card 105 is such a GPRS subscriber.

**[0047]** To determine whether a subscriber is entitled to use communication network 100, the network provider maintains an authentication center (AUC) 135. Generally, AUC 135 includes algorithms and subscriber-related encryption keys, which are used for authentication. AUC 135 determines, inter alia, whether a subscriber has a valid service contract.

**[0048]** The provider of communication network 100 may optionally maintain an equipment identity registry (EIR) 135, which includes details of mobile transceivers permitted on the network. Generally, EIR 135 stores a “white list”, a “grey list” and a “black list”. The white list includes mobile phones that function reliably, the grey list includes mobile phones that may be defective, and the black list includes mobile phones which are either faulty or have been reported missing or stolen.

**[0049]** In order to establish a connection to a subscriber’s mobile phone, the network provider must determine where the subscriber is located and whether his mobile phone is turned on. Such information is stored in a visitor location registry (VLR) 140.

**[0050]** While GSM forms the underlying technology, SGSN 130 is a network element introduced through GPRS technology. HLR/AUC/EIR 135 is also in communication with a gateway MSC 145, which acts as a gateway to a public-switched telephone network (PSTN) 150.

**[0051]** Another network element introduced in the GPRS context is the gateway GPRS support node (GGSN) 155, which acts as a gateway to Internet 160 and to an external server 165, respectively. External server 165 may be used by a manufacturer of CE device 110, a seller of CE device 110, a service provider for device 110, or a combination of the above.

**[0052]** Reference is now made to FIG. 2, which is a simplified illustration of an exemplary Code Division Multiple Access (CDMA) communication network 200, within which wireless communication card 105 transmits information about consumer electronics (CE) device 110 to remote sites, in accordance with an embodiment of the present invention. The specific communication network shown in FIG. 2 conforms to the CDMA2000 1X standard. Communication network 200 includes several components of FIG. 1; namely, communication card 105, CE device 110, base station transceiver 115, base station controller 120, mobile switching center 125, HLR/AUC/EIR 135, VLR 140, gateway MSC 145, PSTN 150, Internet 160 and external server 165.

**[0053]** In communication network 200, BSC 120 is in communication with a packet control function (PCF) 205. In turn, PCF 205 is in communication with a packet data serving node (PDSN) 210, which is part of a packet core network (PCN) 215. A packet core network generally includes a succession of
interconnected routers, or such other communication nodes, that carry Internet protocol (IP) data traffic.

[0054] PDSN 210 provides both mobility management functions, similar to SGSN 130, and packet routing functions, similar to GGSN 155. PDSN 210 serves as a connection point between a radio access network and an IP network, and manages point-to-point sessions between a mobile phone and an IP address.

[0055] PCF 205 provides a relay from PDSN 210 to a mobile phone. PCF 205 tracks registration expiration, and ensures that sessions are renewed as necessary. PCF 205 also controls available radio resources, and buffers data received from PDSN 210 when radio resources are not available. PCF 205 also controls dormancy.

[0056] PCN 215 also includes a home agent (HA) 220. Generally, HA 220 manages roaming and handoff of mobile data. HA 220 is used for registration of a mobile IP (MIP), and transfer of mobile packet data in PDSN 210. Through tunneling, HA 220 transfers MIP data from a home network to PDSN 210, and from PDSN 210 to the home network through a reverse tunnel.

[0057] PCN 215 also includes an authentication, authorization and accounting (AAA) server 225. Generally, AAA server 225 is responsible for access control. AAA server 225 processes user requests for access to computer resources and, for enterprises, provides authentication, authorization and accounting services. Authentication is used to identify subscribers. Authorization is used to manage policies and service profiles that govern which resources and services a subscriber may access, and to manage and distribute security keys. Accounting services track usage of time and data resources, and manage billing. AAA server 225 interacts with network access and gateway servers, and with databases and directories containing user information.

[0058] In communication network 200, MSC 125 is in communication with an interworking function (IWF) 230. An interworking function provides an interface between wireless data networks and data packet networks such as Internet 160 or corporate intranets, and also between wireless data networks and wireline networks such as PSTN 150. The interworking function converts and sends data to a data packet network or a wireline network, based on the data type. Generally, IWF 230 includes modems or data terminal adapters, or both, that is capable of converting and routing data to a format suitable for recognition and carrying by a public telecommunications network.

[0059] Reference is now made to FIG. 3, which is a simplified illustration of an exemplary IEEE 802.11b WiFi communication network 300, within which wireless communication card 105 transmits information about consumer electronics (CE) device 110 to remote sites, in accordance with an embodiment of the present invention. Communication network 300 includes several components of FIGS. 1 and 2; namely, communication card 105, CE device 110, Internet 160 and external server 165.

[0060] A wireless router 305 communicates with a modem 310, and modem 310 sends and receives data to and from Internet 165.

[0061] It will be appreciated by those skilled in the art that although FIGS. 1-3 illustrated operation of communication card 105 in GSM network 100, CDMA network 200 and WiFi network 300, the present invention applies to other current and future technologies, including inter alia packet-switched and circuit-switched technologies, and 3G technologies.

[0062] Reference is now made to FIG. 4, which is an illustration of wireless communication card 105, in accordance with an embodiment of the present invention. As shown in FIG. 4, communication card 105 includes an optional input keypad 410 and an optional output display 420, on its housing.

[0063] Reference is now made to FIG. 5, which is a simplified block diagram for communication card 105 and host CE device 110 of FIGS. 1-3, in accordance with an embodiment of the present invention. As shown in FIG. 5, communication card 105 includes five interconnected primary components; namely, a controller 505, a storage unit 510, a power subsystem 515, a baseband modem 520, and a power amplifier 525. Controller 505 executes programmed instructions to perform the method described in FIG. 7 hereinafter. Storage unit 510 includes information 530 about the owner of CE device 110, such as information INF-3 listed below in TABLE I. Information INF-3 may include inter alia subscriber identity information for communication card 105. Power amplifier 525 includes a radio frequency (RF) interface 535 that has a connecting antenna. Optional components of communication card 105 include a keypad 540, such as keypad 410, a display 545, such as display 420, an audio subsystem 550, and a SIM card 555. Communication card 105 also includes an external interface 560, for connecting communication card 105 to CE host device 110.

[0064] CE host device 110 includes three interconnected primary components; namely, a host processor 565, a controller 570, and a storage unit 575. Storage unit 575 includes technical and usage information 580 about CE device 110, such as information INF-1 listed below in TABLE I. Optional components of CE host device 110 include a user interface 585, such as the user interface shown in FIG. 4. CE host device 110 also includes an external interface 590 for connecting CE host device 110 to communication card 105.

[0065] In accordance with an embodiment of the present invention, communication card 105 and CE host device 110 communicate with one another via a pair of mailboxes within communication card 105. Specifically, controller 505 includes two mailboxes, an outgoing mailbox 595 that is written to by modem 520 and read from by CE host device 110, and an incoming mailbox 596 that is written to by CE host device 110 and read from by modem 520. Controller 505 initiates an interrupt to controller 570 when modem 520 completes a write operation to mailbox 595. Such interrupt may be implemented as an SDIO interrupt on an SD bus, or as a dedicated signal. Similarly, controller 570 initiates an interrupt to modem 520 when CE host device 110 completes a write operation to mailbox 596.

[0066] It will thus be appreciated by those skilled in the art that mailboxes 595 and 596 may be used for direct transfer of data between communication card 105 and CE host device 110. In one embodiment of the present invention, each mailbox 595 and 596 includes 512 bytes, of which the first two bytes are header bytes that store a message type, and the remaining bytes store the message itself.

[0067] Mailboxes 595 and 596 may be mapped to an SDIO register map on the base band modem side and on the CE host device side, respectively. Alternatively, mailboxes 595 and 596 may be mapped to SD memory space. In such case an arbitration algorithm is used to resolve conflicts when both CE host device 110 and communication card 105 try to access SD storage at the same time.
Aspects of the present invention also relate to jacket covers for communication card 105. A “jacket” is a passive device that operates only in combination with communication card 105. A jacket generally does not have its own processor. A jacket may include one or more of a keypad, display, microphone, speaker, earpiece, headset port and USB port. A jacket is connected to a communication card via dedicated connector having a communication bus. Using the present invention, reports may be automatically generated and submitted about jackets and their usages.

In this regard reference is now made to FIG. 6, which is a simplified block diagram of an automated report generation and submission system for communication card 105 and a jacket 610, in accordance with an embodiment of the present invention. Jacket 610 includes a storage unit 675 that stores jacket information 680 and a user interface 685. Jacket 610 generally does not include its own microprocessor. A dedicated connector 690 with a communication bus connects jacket 610 to communication card 105 when jacket 610 is attached thereto.

Reference is now made to FIG. 7, which is a simplified flowchart of a method for automated consumer electronics device reporting for host CE device 110, using communication card 105, in accordance with an embodiment of the present invention. At step 705, a manufacturer of host CE device 110 stores information about the CE device, designated by INF-1, and contact information for a remote recipient, designated by INF-2, in host CE device local storage unit 560. Alternatively or additionally, contact information INF-2 may be stored in communication card 105. Generally, contact information INF-2 stored in host CE device 110 relates to a recipient of registration and diagnostic information about host CE device 110, such as a manufacturer, seller or service provider for host CE device 110. Contact information INF-2 stored in communication card 105 generally relates to a recipient of usage information, such as a cellular operator.

At step 710, a user purchases host CE device 110. At step 715, the user attaches communication card 105 to host CE device 110. When communication card 105 is attached to CE device 110, communication card 105 collects and monitors real-time information related to operation and usage of CE device 110. Communication card 105 stores details about the user, designated by INF-3, in the communication card local storage unit 510. In an alternative embodiment of the present invention, INF-3 is stored in SIM 555.

At step 720, communication card 105, wishing to receive CE device information INF-1 and recipient contact information INF-2 from CE device 110, writes an information request to mailbox 595. At step 725 controller 505 raises an interrupt to host CE device 110. At step 730 host CE device 110 reads the request message, and at step 735 host CE device 110 writes the requested information INF-1 and INF-2 to mailbox 596.

At step 740 controller 570, in turn, raises an interrupt to host CE device 110, and at step 745 communication card 105 reads the requested information INF-1 and INF-2.

At step 750 communication card 105 prepares an appropriate report for recipient INF-1, based on INF-1 and INF-3. At step 755 communication card 105 sends the report to recipient INF-1 at the recipient’s address as specified in INF-2.

The report may be sent to recipient INF-1 in the form of an SMS message, an MMS message, a voice message, a GPRS message, or such other message transmitted by communication card 105. Alternatively or in addition, the report may be transmitted as an e-mail message over an IP or alternate network. The report may be transmitted over a GSM network, as in FIG. 1, over a CDMA network as in FIG. 2, over a WiFi network as in FIG. 3, or via WIMAX communication.

Steps 715-755 of FIG. 7 are summarized in the following simplified pseudo-code.

```plaintext
// declarations for variables
OWNER_DETAILS = {NAME, CONTACT_INFO};
HOSTDETAILS = {HOST_TYPE, MODEL_NUM, SERIAL_NUMBER, MANUFACTURER, RECIPIENT_NUMBER};

IF (IS_CC_INSERTED) {
  CC_MAILBOX_WRITE("INFO REQUEST"); // step 715
  INTERRUPT_HOST(); // step 720
  HOST_MAILBOX_READ_MAILBOX(); // step 725
  HOST_MAILBOX_WRITE(HOSTDETAILS); // step 730
  INTERRUPT_CC(); // step 735
  CC_MAILBOX_READ(HOSTDETAILS); // step 740
  MESSAGE = PREPARE_MESSAGE(OWNER_DETAILS, HOST_DETAILS); // step 745
  MESSAGE_SEND_TO_RECIPIENT(RECIPIENT_NUMBER, MESSAGE); // step 750
}
```

TABLE I summarizes exemplary information data that is accessed by communication card 105 in performing the method of FIG. 7.

<table>
<thead>
<tr>
<th>INF-1: CE device information</th>
<th>INF-2: Card jacket information</th>
<th>INF-3: Owner information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>Phone number</td>
<td>ID</td>
</tr>
<tr>
<td>Type of appliance</td>
<td>E-mail address</td>
<td>Membership number</td>
</tr>
<tr>
<td>Model Number</td>
<td>Full name</td>
<td>Address</td>
</tr>
<tr>
<td>Serial Number</td>
<td>Address</td>
<td>Phone number</td>
</tr>
<tr>
<td>SKU</td>
<td>Date of purchase</td>
<td>Cell phone number</td>
</tr>
<tr>
<td>Capability - screen type</td>
<td>Point of purchase</td>
<td>E-mail</td>
</tr>
<tr>
<td>Capability - screen size</td>
<td>Capabilities - user interface</td>
<td>Web site</td>
</tr>
<tr>
<td>Usage-related information</td>
<td></td>
<td>Subcriber information</td>
</tr>
</tbody>
</table>

Generally, CE device information, INF-1, is controlled by the manufacturer or seller of the CE device, and is stored in the CE device itself. CE device information, INF-1, may be updated by the manufacturer or seller up to the time when the CE device is sold. In another embodiment of the
present invention, some or all of CE device information, INF-1, may be manually entered. Such information may be attached to or printed on the CE device; for reference.

Generally, owner information, INF-3, is controlled by the user of CE device 110, and is stored in communication card 105. Alternatively, some or all of owner information, INF-3, may be accessible on a network such as the Internet. In such case, communication card 105 accesses the owner information from the network, prior to sending the report to recipient 165 at step 750. In another embodiment of the present invention, some or all of owner information, INF-3, may be manually entered.

The usage-related information listed in TABLE I may include a variety of present and past usage information. Such usage-related information includes inter alia,

- communication card insertion time;
- communication card extraction time;
- battery status of the CE device;
- battery status of the communication card;
- memory status of the CE device;
- memory status of the communication card;
- geographical movement of the CE device;
- mode of the CE device (e.g., silent, flight mode, meeting mode);
- accessories connected to the CE device (e.g., earphones, speaker, charger);
- accessories connected to the communication card (e.g., PC);
- software installed on the CE device (e.g., drivers, operating system, applications, codecs);
- software and firmware version of the CE device;
- file types in memory of the CE device (e.g., audio, video, documents); and
- file types in memory of the communication card.

For purposes of illustration, the following is an exemplary simplified report that is submitted by communication card 105 to recipient 165 at step 755.

**Device Details**

Type: Digital Camera
Manufacturer: Olympus
Model: C-765
SKU: 12345-ABCDE
Additional Information (report specific)
Owner Details
Name: JackTimes
Phone: 123-456-7890
Cell Phone: 987-654-3210
E-mail: Jack.Times@mailserver.com

Reporting step 755 may be performed either while communication card 105 is connected to CE device 110, or while communication card 105 is disconnected from CE device 110. When communication card 105 is connected to CE device 110, automated reporting may be event driven. Events that may initiate the reporting include inter alia

- Attachment of the communication card to the CE device
- Detachment of the communication card from the CE device
- Performing a device-specific function, e.g., begin listening to a song on an audio player

Communication card 105 may generate and save a usage history log in communication card's storage 510 or CE device's storage 560. Communication card 105 may generate and save a history log for a plurality of CE devices. Information from the history log can be sent periodically to the recipient, such as daily or weekly.

Reporting step 755 may be performed in real-time, or at a later time via a PC or via GPRS.

Reporting step 755 may be initiated by the user of CE device 110. For example, the user may initiate generating a report and submitting the report to a service provider, if CE device 110 is malfunctioning.

Reporting step 755 may be initiated by software or firmware running on CE device 110 or on communication card 105. Such software or firmware initiated reporting may occur as a one-time event, or as a recurring event.

Reporting step 755 may be initiated remotely over a network. For example, recipient 165 may initiate generating a report and submitting it to the recipient.

Alternatively or in addition to step 755, communication card 105 may open a voice channel for the user of CE device 110 and the recipient to speak with one another, or to leave voice messages for one another. Thus, when communication card 105 is attached to CE device 110 for the first time, the user of CE device 110 and the recipient may be connected via a voice channel. The recipient may thereby introduce the user to operation of CE device 110, assist the user in configuring CE device 110, and offer the user of CE device 110 a tutorial. In addition, incoming voice messages may be saved in a voice mailbox within communication card 105.

As described hereinabove, communication card 105 may have one or more jackets 610. In an embodiment of the present invention, distinct jackets 610 of communication card 105 have distinct identification codes. The identification code of a jacket 610 may include some or all of information, INF-1. In this embodiment, the jacket identification code may be reported to the recipient at step 755.

In accordance with an embodiment of the present invention, reporting step 755 may advantageously use a user-agent header, which prefaces transmissions from communication card 105. User-agent headers are text strings that are transmitted by a device, such as communication card 105, via an HTTP header, to identify the device that is sending data. User-agent headers generally include a wireless device model and manufacturer. User-agent headers may also include additional information such as the device's operation system version, browser version and Java capabilities. Examples of user-agent headers are:

Nokia 6230

User-Agent: Nokia6230/2.0 (03.14) Profile/MIDP-2.0 Configuration/CLDC-1.1

Sony Ericsson Z1010

User-Agent: SonyEricssonZ1010/R1A SEMC-Browser/4.0

Modu

User-Agent: Modu-A1.0/SKY Browser 1.1/Music

In accordance with an embodiment of the present invention, user-agent headers are modified according to capa-
abilities of CE device 110, so that recipient 165 may identify content and services that CE device 110 supports. User-agent headers are also modified according to properties of the communication card’s jacket, so that recipient 165 may identify the card’s jacket. The user-agent headers are modified in the HTTP header upon connection of communication card 105 and CE device 110, or upon attachment of communication card 105 to its jacket.

Communication card 105 also uses a user-agent profile (UAProf). Specifically, communication card 105 sends a universal resource identifier (URI) with a link to its UAProf, within an HTTP header or a Web Service Provider (WSP) header. The UAProf resides on the manufacturer’s web site—either the manufacturer of communication card 105 or the manufacturer of CE device 110 or the manufacturer of a jacket. The UAProf is maintained by the manufacturer, and is unique per card/CE device combination and per card/jacket combination and per software version. The URI is updated when a UAProf parameter value is changed.

The system and method of the present invention illustrated in FIGS. 1-7 may be used advantageously in many application areas where automated reporting is useful, including inter alia:

- medical reports;
- police reports;
- insurance reports;
- driver and automobile safety reports;
- taxi cab reports;
- credit card reports;
- ATM card reports;
- registration of CE devices;
- diagnostics and maintenance;
- software/firmware updates;
- warranties and guarantees;
- access control security;
- offer of services;
- time-stamping;
- advertising;
- market segmentation;
- understanding user behavior; and
- networking.

Embodiments of the present invention are advantageous for updating software and firmware. The generated report may include identifiers of versions of software and firmware for an enhanced function device, in response to which appropriate updated versions are remotely accessed.

In accordance with an embodiment of the present invention, communication card 105 maintains a history log of the various CE devices and jackets it was attached to. The history log includes the CE devices’ current installed software and firmware versions. According to an embodiment of the present invention, settings that were last defined or modified for the CE devices are also stored in the history log. When communication card 105 reports its history log, appropriate software/firmware updates are made accessible for communication card 105 to download. After downloading the updates, when communication card 105 is subsequently attached to one of the CE devices and jackets in its history log, the software/firmware in these CE devices and jackets is updated as appropriate. The updated software/firmware may be installed automatically when communication card 105 is attached to a CE device, or may be prompted manually by a user.

According to an embodiment of the present invention, the settings for the CE devices are restored on the CE devices from the history log in communication card 105, when communication card 105 is subsequently pouch with any of the CE devices.

Reference is now made to FIG. 8, which is a simplified flow chart of a method for provisioning software and firmware updates to a plurality of CE devices and jackets using communication card 105, in accordance with an embodiment of the present invention. At step 810 communication card 105 is pushed in a plurality of CE devices and jackets over time. At step 820 communication card 105 collects information relating to the plurality CE devices and jackets over time, the collected information including versions of installed software/firmware and last defined or modified settings for the CE devices and jackets.

At step 830 communication card 105 maintains a history log of the collected information. At step 840, communication card 105 is connected to a PC, and the PC reports the history log to one or more remote update servers. At step 850 the remote update servers transmit new versions of software/firmware to communication card 105, as appropriate for the plurality of CE devices and jackets. At step 860, upon subsequent attaching of communication card 105 to any of the CE devices and jackets, the updated versions of software/firmware are installed on the CE device or jacket.

In another embodiment of the present invention, instead of or in addition to generating reports, communication card 105 sends usage data it collects to a server computer. In this regard, reference is now made to FIG. 9, which is a simplified block diagram of a web-based data collection system for a communication card and consumer electronics device, in accordance with an embodiment of the present invention. As shown in FIG. 9, communication card 105 opens a TCP connection and sends usage data to a server computer 900. Server information, for server computer 900 including inter alia a server URL, which may be a server IP address, a server domain name, or such other locator, is generally stored in communication card 105. The usage data may be sent within an HTTP request to server computer 900. The usage data may include inter alia:

- Card is charging;
- Card is attached to/detached from a jacket & type of jacket;
- Card is connected to a Bluetooth device, D;
- Owner is in a meeting (based on owner calendar);
- GPS location;
- Owner is dialing a phone number, PN;
- Owner is on a call with PN;
- Owner has finished call with PN;
- Owner is listening to a song, S; and
- Owner activities:
  - Owner is running;
  - Owner’s pulse;
  - Pedometer;
  - Accelerometer;
  - Pictures;
  - Music;
  - Phone color;
  - Solar panel is charging.

In accordance with an embodiment of the present invention, the usage data reporting functionality of communicator card 105 can be configured by the owner to report all usage data, a designated portion of usage data, or not to report any usage data. Additionally, usage data reporting functionality can be paused for a set time. Usage data reporting can
also be locked by parents. Communicator card 105 has an indicator indicating to the owner when his information is being collected and transmitted to server computer 900.

[0160] Also shown in FIG. 9 is an application programming interface (API), enabling application developers to register and receive live usage data. An example application is a Facebook® module that enables Facebook users to perform various tasks based on usage data received from communicator card 105. Such tasks include inter alia:

[0161] Change a user Facebook status based on user activity and location;

[0162] Allow the user to define position coordinates for home, school, soccer, and other such places, and automatically change the user’s Facebook status based on location;

[0163] Review daily logs of activities and data collected about them or their children. Communicator card 105 is able to selectively receive friends’ status, via SMS or web-pulling, and display the status in a contact list and/or in a main screen.

[0164] In the foregoing specification, the invention has been described with reference to specific exemplary embodiments thereof. It will, however, be evident that various modifications and changes may be made to the specific exemplary embodiments without departing from the broader spirit and scope of the invention as set forth in the appended claims. Accordingly, the specification and drawings are to be regarded in an illustrative rather than a restrictive sense.

[0165] The word “denoted” is used in the claims to indicate a name for specific information, but it will be understood that the name is not required by the claims to be explicitly used in any use or practice of the invention. For example, technical and usage information about a consumer electronics device is not required to be called “INF-1” when practicing the invention, and hence such information may have other names associated therewith, or no names associated therewith, and yet still be covered by the claims when the invention is practiced.

What is claimed is:

1. A system for generating and submitting reports about consumer electronics devices, comprising:
   a consumer electronics device, comprising:
   a host interface, for connecting a wireless communication card to a consumer electronics device; and
   a host memory storage unit, for storing technical information and usage information about the consumer electronics device, denoted INF-1; and
   a wireless communication card, comprising:
   a controller, for executing programmed instructions;
   a power subsystem for supplying power to the communication card;
   a wireless modem coupled with said controller for receiving and transmitting data over the air; and
   a card interface for connecting the communication card to said consumer electronics device,
   wherein said controller is programmed to collect information INF-1, to generate a report including at least a portion of information INF-1, to collect recipient address information, denoted INF-2, and to submit the report to a recipient address as per information INF-2, via said wireless modem, over a wireless communication network that connects said communication card and the recipient.

2. The system of claim 1 wherein information INF-2 is stored in said host memory storage unit.

3. The system of claim 1 wherein said wireless communication card further comprises a memory storage unit coupled with said controller, and wherein information INF-2 is stored in said communication card memory storage unit.

4. The system of claim 1 wherein said wireless communication card further comprises a memory storage unit coupled with said controller, for storing personal information about an owner of said consumer electronics device, denoted INF-3, wherein said controller is programmed to also collect information INF-3, and wherein the report generated by said controller also includes at least a portion of information INF-3.

5. The system of claim 4 wherein information INF-3 includes at least a portion of subscriber identity information for said communication card.

6. The system of claim 5 wherein said communication card memory storage unit comprises a SIM card.

7. The system of claim 1 wherein the wireless communication network is any one of packet-switched cellular network, a circuit-switched network, a Wi-Fi network, and a WiMAX network.

8. The system of claim 1 wherein said communication card is connected physically to said consumer electronics device.

9. The system of claim 1 wherein said communication card is connected wirelessly to said consumer electronics device.

10. The system of claim 1 wherein the report submitted by said controller includes a user-agent header for said communication card, and wherein said controller alters the user-agent header in accordance with capabilities of said consumer electronics device.

11. The system of claim 1 wherein said controller submits the report to the recipient as any one of an SMS message, an MMS message, an e-mail message and a voice message.

12. The system of claim 1 wherein said controller is also programmed to open a voice channel, thereby enabling the owner of said consumer electronics device to speak with one another.

13. The system of claim 1 wherein said wireless communication card further comprises an audio player, and wherein said controller is also programmed to receive a voice message from the recipient, to store the voice message in said communication card memory storage unit, and to play the stored voice message to the owner of said consumer electronics device via said audio player.

14. A method for generating and submitting reports about consumer electronics devices, comprising:
   storing technical and usage information about a host consumer electronics device, denoted INF-1, in a storage unit of the device;
   connecting a wireless communication card to the consumer electronics device;
   collecting, by the communication card, information INF-1, and recipient address information, denoted INF-2, when the communication card is connected to the consumer electronics device;
   generating a report about the consumer electronics device, the report including at least a portion of information INF-1; and
   submitting the report to a recipient address as per information INF-2, by the communication card, over a wireless communication network that connects the communication card and the recipient.

15. The method of claim 14 wherein information INF-2 is stored in the storage unit of the consumer electronics device.
16. The method of claim 14 wherein information INF-2 is stored in a storage unit of the communication card.

17. The method of claim 14 further comprising storing personal information about an owner of the consumer electronics device, denoted INF-3, in a storage unit of a wireless communication card, and wherein the report generated by said generating also includes at least a portion of information INF-3.

18. The system of claim 17 wherein information INF-3 includes at least a portion of subscriber identity information for the communication card.

19. The method of claim 14 wherein said submitting the report is initiated by the owner of the consumer electronics device.

20. The method of claim 14 wherein said submitting the report is initiated by the recipient computer.

21. The method of claim 14 wherein said submitting the report is initiated by occurrence of a pre-designated event.

22. The method of claim 21 wherein the pre-designated event is turning on of the consumer electronics device.

23. The method of claim 21 wherein the pre-designated event is turning off of the consumer electronics device.

24. The method of claim 21 wherein the pre-designated event is connection of the communication card to the consumer electronics device.

25. The method of claim 21 wherein the pre-designated event is disconnection of the communication card from the consumer electronics device.

26. The method of claim 21 wherein the pre-designated event is initial connection of the communication card to the consumer electronics device.

27. The method of claim 21 wherein the pre-designated event is performance of a device-specific function.

28. The method of claim 14 wherein the report comprises a user-agent header for the communication card, and wherein said generating comprises altering the user-agent header in accordance with capabilities of the consumer electronics device.

29. The method of claim 14 wherein said submitting submits the report to the recipient as any one of an SMS message, an MMS message, an e-mail message and a voice message.

30. The method of claim 14 further comprising opening a voice channel, thereby enabling the owner of the consumer electronics device and the recipient to speak with one another.

31. The method of claim 14 further comprising receiving a voice message from the recipient; storing the voice message in the storage unit of the wireless communication card; and playing the stored voice message to the owner of the consumer electronics device.

32. A system for generating and submitting reports about consumer electronics devices, comprising:

- a consumer electronics device, comprising:
  - a host interface, for connecting a wireless communication card to a consumer electronics device; and
  - a host memory storage unit, for storing technical information and usage information about the consumer electronics device, denoted INF-1; and

- a wireless communication card, comprising:
  - a controller, for executing programmed instructions; a power subsystem for supplying power to the communication card; a wireless modem coupled with said controller for receiving and transmitting data over the air; and an electronics jacket that attaches as a cover over said communication card; and

33. The system of claim 32 wherein information INF-2 is stored in said host memory unit.

34. The system of claim 32 wherein said wireless communication card further comprises a memory storage unit coupled with said controller, wherein information INF-2 is stored in said communication card memory storage unit.

35. The system of claim 32 wherein information INF-3 includes at least a portion of subscriber identity information for said communication card.

36. A method for generating and submitting reports about consumer electronics devices, comprising:

- storing technical and usage information about a host consumer electronics device, denoted INF-1, in a storage unit of the device;

- connecting a wireless communication card to the consumer electronics device;

- collecting, by the communication card, information INF-1, and recipient address information, denoted INF-2, when the communication card is connected to the consumer electronics device;

- retrieving, by the communication card, personal information about an owner of the consumer electronics device, denoted INF-3, from a network computer;

- generating a report about the consumer electronics device, the report including at least a portion of information INF-1 and INF-3; and

- submitting the report to a recipient address as per information INF-2, by the communication card, over a wireless communication network that connects the communication card, the network computer, and the recipient.

37. The method of claim 36 wherein information INF-2 is stored in the storage unit of the consumer electronics device.

38. The method of claim 36 wherein information INF-2 is stored in a storage unit of the communication card.

39. The method of claim 36 wherein information INF-3 includes at least a portion of subscriber identity information for the communication card.

40. A system for generating and submitting reports about consumer electronics devices, comprising:

- a wireless communication card, comprising:
  - a controller, for executing programmed instructions; a power subsystem for supplying power to the communication card; and a wireless modem coupled with said controller for receiving and transmitting data over the air; and

- an electronics jacket that attaches as a cover over said communication card; and

- a user interface for said communication card; and

- a jacket memory storage unit, for storing usage information about said communication card, denoted INF-1; and
a connector for connecting said jacket to said communication card, comprising a communication bus, wherein said controller is programmed to collect information INF-1, to generate a report including at least a portion of information INF-1, to collect recipient address information, denoted INF-2, and to submit the report to a recipient address as per information INF-2, via said wireless modem, over a wireless communication network that connects said communication card and the recipient.

41. The system of claim 40 wherein information INF-2 is stored in said jacket memory storage unit.

42. The system of claim 40 wherein said wireless communication card further comprises a memory storage unit coupled with said controller, wherein information INF-2 is stored in said communication card memory storage unit.

43. The system of claim 40 wherein said wireless communication card further comprises a memory storage unit coupled with said controller, for storing personal information about an owner of the communication card, denoted INF-3, wherein said controller is programmed to also collect information INF-3, and wherein the report generated by said controller also includes at least a portion of information INF-3.

44. The system of claim 43 wherein information INF-3 includes at least a portion of subscriber identity information for said communication card.

45. The system of claim 43 wherein said communication card memory storage unit comprises a SIM card.

46. The system of claim 40 wherein said communication card further comprises a media player coupled with said controller.

47. The system of claim 46 wherein said jacket further comprises at least one component of the group consisting of a speaker, an earpiece, a headset, a display and a keypad.

48. The system of claim 40 wherein the recipient is a distributor of said jacket.

49. A wireless communicator, comprising:
an interface configured to enable the wireless communicator to connect to an electronic device and to enable data to be transferred between the wireless communicator and the electronic device, the electronic device having device information;
a wireless modem configured to transmit and receive data from time to time when the wireless communicator is connected to the electronic device and from time to time when the wireless communicator is not connected to the electronic device;
a memory storing personal information about a user of the wireless communicator; and

a controller coupled with said interface, said wireless modem and said memory, the controller configured to receive the device information from the electronic device when the electronic device is connected to the wireless communicator, to generate a report including at least a portion of the personal information and at least a portion of the device information, and to cause said wireless modem to transmit the report to a recipient.

51. The wireless communicator of claim 49 wherein said wireless modem transmits the report in at least one of a short message service (SMS) message, an e-mail message and a multimedia message.

52. The wireless communicator of claim 49 wherein said wireless modem transmits the report in a voice message.

53. The wireless communicator of claim 49 wherein said wireless modem transmits the report in dial tone signals.

54. A wireless communicator comprising:
an interface configured to enable the wireless communicator to connect to a plurality of different electronic devices and to enable data to be transferred between the wireless communicator and the plurality of different electronic devices, wherein each of the plurality of different electronic devices has device information;
a wireless modem configured to transmit and receive data from time to time when the wireless communicator is connected to one of the plurality of different electronic devices and from time to time when the wireless communicator is not connected to any of the plurality of different electronic devices;
a memory storing personal information about a user of the wireless communicator; and

a controller coupled to said interface, said wireless modem and said memory, the controller configured to receive device information from an electronic device connected to the wireless communicator, to generate a report including at least a portion of the personal information and at least a portion of the device information from the electronic device connected to the wireless communicator, and to cause said wireless modem to transmit the report to a recipient.

55. The wireless communicator of claim 54 wherein each of the plurality of different electronic devices has usage information, and said controller is further configured to receive usage information from an electronic device connected to the wireless communicator, to generate a report including at least a portion of the personal information, at least a portion of the device information from the electronic device connected to the wireless communicator, and at least a portion of the usage information from the electronic device connected to the wireless communicator, and to cause said wireless modem to transmit the report to the recipient.

56. The wireless communicator of claim 54 wherein said wireless modem transmits the report in at least one of a short message service (SMS) message, an e-mail message and a multimedia message.

57. The wireless communicator of claim 54 wherein said wireless modem transmits the report in a voice message.

58. The wireless communicator of claim 54 wherein said wireless modem transmits the report in dial tone signals.

59. The wireless communicator of claim 54 wherein said controller is further configured to maintain a history log that stores device information from each of the plurality of different electronic devices that the wireless communicator has connected to.

60. An electronic device, comprising:
an interface configured to enable the electronic device to connect to a wireless communicator and to enable data to be transferred between the wireless communicator and the electronic device;
a memory storing device information; and
a controller coupled to said interface and said memory, the
controller configured to send at least a portion of the
device information to the wireless communicator via
said interface, for transmission to a recipient.

61. The electronic device of claim 60 wherein said memory
also stores contact information for the recipient, and wherein
said controller is further configured to send the contact infor-
mation to the wireless communicator via said interface.

62. The electronic device of claim 60 wherein said controller
is further configured to collect usage information and send
the usage information to the wireless communicator via said
interface.

63. A system, comprising:

a wireless communicator, comprising:
an interface configured to enable the wireless commu-
nicator to connect to an electronic device and to
enable data to be transferred between the wireless
communicator and the electronic device;
a wireless modem configured to transmit and receive
data from time to time when the wireless communi-
cator is connected to an electronic device and to trans-
mit and receive data from time to time when the wire-
less communicator is not connected to an electronic
device, and
a controller coupled to said interface and said wireless
modem; and

an electronic device comprising:
an interface configured to enable the electronic device to
connect to said wireless communicator interface;
a memory storing device information; and
a controller configured to provide the device information
to said wireless communicator in response to a
request from said wireless communicator,
wherein said wireless communicator controller is configured
to generate a report including at least a portion of the device
information and to cause said wireless modem to transmit the
report to a recipient.

64. The system of claim 63 wherein said electronic device
controller is further configured to collect usage information
of said electronic device and to send the usage information to
said wireless communicator when said wireless communi-
cator is connected to said electronic device, and wherein
said wireless communicator controller is further configured
to include the personal information in the report.

65. The system of claim 63 wherein said wireless communi-
cicator further comprises a memory storing personal infor-
mation of a user of said wireless communicator, and wherein
said wireless communicator controller is further configured
to include the personal information in the report.

66. The system of claim 63 wherein said wireless modem
transmits the report in at least one of a short message service
(SMS) message, an e-mail message and a multimedia
message.

67. The system of claim 63 wherein said wireless modem
transmits the report in a voice message.

68. The system of claim 63 wherein said wireless modem
transmits the report in dial tone signals.

69. The system of claim 63 wherein said wireless communi-
cicator controller is configured to cause said wireless modem
to transmit the report when said wireless communicator is
connected to said electronic device.

70. The system of claim 63 wherein said wireless communi-
cicator controller is configured to cause said wireless modem
to transmit the report when said wireless communicator is not
connected to said electronic device.

71. A system for generating and submitting reports about
consumer electronics devices, comprising:
a host interface, for connecting a wireless communi-
cation card to a consumer electronics device; and
a host memory storage unit, for storing technical infor-
mation and usage information about the consumer
electronics device; and

a wireless communication card, comprising:
a controller, for executing programmed instructions;
a communication card memory storage unit coupled
with said controller, for storing personal information
about an owner of said consumer electronics device;
a power subsystem for supplying power to the commu-
nication card;
a wireless modem coupled with said controller for
receiving and transmitting data over the air; and
a card interface for connecting the communication card
to said consumer electronics device,
wherein said controller is configured to monitor and collect
the technical and usage information and the personal infor-
mation, to open a TCP connection to a server computer and to
transmit at least a portion of the technical, usage and personal
information to the server computer, via said wireless modem,
over a wireless communication network that connects said
communication card and the server computer.

72. A method for generating and submitting reports about
consumer electronics devices, comprising:

storing technical and usage information about a host con-
sumer electronics device, in a storage unit of the device;
storing personal information about an owner of the con-
sumer electronics device, in a storage unit of a wireless
communication card;

connecting the wireless communication card to the con-
sumer electronics device;
collecting, by the communication card, the technical and
usage information, when the communication card is
connected to the consumer electronics device;
automatically opening a TCP connection with a server
computer, by the communication card; and
automatically transmitting at least a portion of the tech-

73. The method of claim 72 wherein said automatically
transmitting comprises sending the at least a portion of the
technical, usage and personal information within an HTTP
request.

74. The method of claim 72 wherein the server computer
includes a database of remote recipients corresponding to
respective consumer electronics devices, the method further
comprising automatically transmitting, by the server com-
puter, at least a portion of the technical, usage and personal
information to at least one remote recipient correspond-
ting to the host consumer electronic device.

75. The method of claim 72 further comprising enabling at
least one remote recipient to access at least a portion of the
technical, usage and personal information on a web site in
communication with the server computer.