The present invention relates to automated appliance diagnostics and reporting. Inventors include Itay Sherman, Hod Hasharon (IL); Eyal Bichkov, Hod Hasharon (IL); Uri Ron, Tel Aviv (IL); Hagay Katz, Moshav Herut (IL); Hagit Perry, Herzilya (IL); and Ran Margalit, Ramat Hasharon (IL).

A system for maintaining an appliance, including a storage housed within an electrical appliance for storing identifying information about the electrical appliance and its purchase, and a communication card including an interface connector for connecting the communication card to the electrical appliance, and a wireless cellular modem for transmitting data, wherein when the communication card is connected to the electrical appliance via the interface connector, the communication card causes program code to perform at least one diagnostic test on the electrical appliance and to generate test results, to collect the identifying information about the electrical appliance and its purchase, and to transmit at least a portion of the collected information and the test results to at least one remote recipient using the cellular modem. A method is also described and claimed.
DEVICE DIAGNOSTICS

CONSUMER INSERTS COMMUNICATION CARD (CC) INTO ELECTRONIC APPLIANCE (HOST)

CC MONITORS HOST STATUS

PROBLEM DETECTED?

YES

CC CONTROLLER COLLECTS HOST INFORMATION: S/N, MODEL NO., AND MALFUNCTION TYPE

CC CONTROLLER COLLECTS CC OWNER DATA FROM CC MEMORY OR FROM CC SIM

CC CONTROLLER COLLECTS SELLER/SERVICE PROVIDER CONTACT INFORMATION

CC CONTACTS SELLER/SERVICE PROVIDER AND ALERTS REGARDING MALFUNCTION

SELLER/SERVICE PROVIDER CONTACTS OWNER REGARDING MALFUNCTION

FIG. 4
FIG. 5

WEB SITE 510

API

SERVER COMPUTER

DIAGNOSTIC INFORMATION

COMMUNICATOR CARD 100

500

500

510
AUTOMATED APPLIANCE DIAGNOSTICS AND 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 applied to automated maintenance of appliances.

BACKGROUND OF THE INVENTION

[0003] Consumers who buy electrical appliances generally contact the seller or the seller’s service provider when the appliance malfunctions, to report a problem and to have the appliance fixed.

[0004] Currently, malfunction reporting is performed manually. Specifically, to report an appliance malfunction a consumer generally contacts the seller or service provider by phone or via the Internet. Malfunction reports include information about the appliance and information about the owner of the appliance. Information about the appliance includes a serial number, a model number, a point of purchase and a date of purchase. Information about the owner includes name and contact details.

[0005] Consumer appliances are not generally examined periodically on a regular maintenance schedule. When malfunctions do occur they may be severe and costly. Reporting malfunction of an appliance is often time consuming and cumbersome.

[0006] There is thus a need for monitoring appliances on a regular basis and automatically sending diagnostic reports to service providers, in order to avoid or reduce severity of malfunctions with the appliances. There is also a need for automated methods and systems for reporting malfunctions of electrical appliances.

SUMMARY OF THE DESCRIPTION

[0007] Aspects of the present invention concern automated diagnostic testing and malfunction reporting for electrical appliances. In one embodiment, the present invention employs a communication card that includes a controller, a flash storage memory, a battery, a wireless modem, a power amplifier, and an interface for connecting the card to an appliance.

[0008] The communication card includes program code for diagnostic testing of the appliance. When the communication card is connected to the appliance, the program code runs diagnostic maintenance tests on the appliance. The card automatically collects information about the appliance and its owner, and transmits the collected information along with a diagnostic report, to the seller or service provider for the appliance. In turn, if a malfunction is reported, the seller or service provider contacts the owner about repairing the appliance. In this way, the seller or service provider is able to maintain the appliance, and proactively repair appliance malfunctions before they become severe.

[0009] In addition, the seller or service provider is able to identify the precise problem, act upon accurate information, and send a technician with an appropriate appliance part or instruct the owner by phone how to fix the problem remotely. In distinction, user explanations are often inaccurate.

[0010] In accordance with an embodiment of the present invention, diagnostic maintenance tests may be scheduled periodically, or initiated manually by the owner, or initiated remotely, over the air, by the service provider via the communication card.

[0011] There is thus provided in accordance with an embodiment of the present invention a method for maintaining an appliance, including a storage housed within an electrical appliance for storing identifying information about the electrical appliance and its purchase, and a communication card including an interface connector for connecting the communication card to the electrical appliance, and a wireless cellular modem for transmitting data, wherein when the communication card is connected to the electrical appliance via the interface connector, the communication card causes program code to perform at least one diagnostic test on the electrical appliance and to generate test results, to collect the identifying information about the electrical appliance and its purchase, and to transmit at least a portion of the collected information and the test results to at least one remote recipient using the cellular modem.

[0012] There is additionally provided in accordance with an embodiment of the present invention a method for maintaining an appliance, including connecting a communication card to an electrical appliance, wherein identifying information about the electrical appliance and its purchase is stored within a memory in the electrical appliance, causing at least one diagnostic test to be performed on the electrical appliance, automatically collecting the identifying information about the electrical appliance and its purchase from the memory in the electrical appliance, opening a connection with at least one remote recipient, by the communication card, and transmitting at least a portion of the collected information and the results of the at least one diagnostic test to the at least one recipient, by the communication card.

[0013] There is further provided in accordance with an embodiment of the present invention a system for maintaining an appliance, including a storage housed within an electrical appliance for storing identifying information about the electrical appliance, and a communication card including an interface connector for connecting the communication card to the electrical appliance, and a wireless cellular modem for transmitting data, wherein when the communication card is connected to the electrical appliance via the interface connector,
tor, the communication card causes program code to perform at least one diagnostic test on the electrical appliance and to generate test results, to collect the identifying information about the electrical appliance, and to open a TCP connection to a server computer to transmit at least a portion of the collected information and the test results to the server computer using the cellular modem.

[0014] There is further provided in accordance with an embodiment of the present invention a method for maintaining an appliance, including connecting a communication card to an electrical appliance, wherein identifying information about the electrical appliance is stored within a memory in the electrical appliance, causing at least one diagnostic test to be performed on the electrical appliance, automatically collecting the identifying information about the electrical appliance from the memory in the electrical appliance, opening a TCP connection with a server computer, by the communication card, and transmitting at least a portion of the collected information and the results of the at least one diagnostic test to the server computer, by the communication card.

[0015] There is yet further provided in accordance with an embodiment of the present invention a wireless communication card, including an interface configured to enable the wireless communicator to connect to a plurality of different electronic devices, wherein each of the plurality of electronic devices has device information, a memory storing a device diagnostic program, wherein the device diagnostic program includes instructions to perform at least one diagnostic test on the electronic device and to generate test results, 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, and a controller coupled to the interface, the memory and the wireless modem, the controller configured to receive the device information from an electronic device connected to the wireless communicator, to execute the device diagnostic program, and to cause the wireless modem to transmit at least a portion of the device information and the test results to the recipient.

[0016] There is moreover provided in accordance with an embodiment of the present invention an electronic device, including an interface configured to enable the electronic device to connect to one of a plurality of wireless communicators and to enable data to be transferred between the electronic device and a wireless communicator connected to the electronic device, a memory storing device information and storing a device diagnostic program, wherein the device diagnostic program includes instructions to perform at least one diagnostic test on the electronic device and to generate test results, and a controller coupled to the interface and the memory, the controller configured to execute the device diagnostic program when a first one of the plurality of wireless communicators is connected to the interface, and to transfer at least a portion of the device information and the test results to a wireless communicator connected to the electronic device, for transmission to a recipient.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The present invention will be more fully understood and appreciated from the following detailed description, taken in conjunction with the drawings in which:

[0018] FIG. 1 is a simplified illustration of a communications network with a communication card that transmits information about an appliance to a remote manufacturer or seller or service provider, in accordance with an embodiment of the present invention;

[0019] FIG. 2 is a picture of the physical communication card of FIG. 1, in accordance with an embodiment of the present invention;

[0020] FIG. 3 is a simplified block diagram of a system for a communication card used for diagnostic reporting of electrical appliances, in accordance with an embodiment of the present invention;

[0021] FIG. 4 is a simplified flowchart of a method for reporting diagnostics for electrical appliances using a communication card, in accordance with an embodiment of the present invention; and

[0022] FIG. 5, which is a simplified block diagram of a web-based device diagnostic system, in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION

[0023] Aspects of the present invention relate to a communication card that connects to an electrical appliance and automatically performs various functions for the owner of the appliance. Reference is now made to FIG. 1, which is a simplified illustration of a communications network with a communication card 100 that wirelessly transmits information about an appliance 200 to one or both of a remote seller and a remote service provider 300, in accordance with an embodiment of the present invention. Reference is also made to FIG. 2, which is a picture of a physical communication card 100, in accordance with an embodiment of the present invention. When communication card 100 is connected to appliance 200, the communication card (i) automatically runs diagnostic tests on the appliance, and (ii) automatically prepares diagnostic summary reports 320 for the appliance and transmits them to a remote seller, manufacturer or service provider 300 for the appliance.

[0024] Reference is now made to FIG. 3, which is a simplified block diagram of a system for a communication card 100 used for diagnostic reporting of electrical appliances, in accordance with an embodiment of the present invention. Shown in FIG. 3 is a communication card (CC) 100 and a host electrical appliance 200, which connect to one another using a host interface 105 and a CC interface 210. Host interface 105 and CC interface 210 may be a physical interface, such as a USB interface or an SD interface, or a Bluetooth interface or such other wireless interface.

[0025] Main components of CC 100 include a controller 110, a flash memory 115, a wireless cellular modem 145, and a power amplifier 150. CC 100 optionally includes a power subsystem 125, an input device 130 such as a keypad, and an output display 135, an audio subsystem 140, and an optional subscriber identification module (SIM) 170.

[0026] In accordance with an embodiment of the present invention, memory 115 stores information 121 about the owner of CC 100. Owner information 121 includes sufficient information for identifying the owner of electrical appliance 200. In an alternative embodiment of the present invention, information 121 is stored in SIM 170. Memory 115 also stores program code 122 for reporting diagnostics for host appliance 200, as described hereinbelow. Modem 145 sends and receives voice and digital data using wireless communication, via an antenna 155 or via an optional wireless LAN
165, or via both. Power amplifier 150 is used to amplify data transmitted by modem 145. Power amplifier 150 includes an RF interface 160.

[0027] In accordance with an embodiment of the present invention, when CC 100 includes the optional components shown in FIG. 3, then CC 100 functions both as a standalone modular cell phone, and also in cooperation with electrical appliance 200 as a device for automated diagnostics and reporting as described hereinbelow. In accordance with another embodiment of the present invention, when CC 100 does not include the optional components shown in FIG. 3, then CC functions only in cooperation with electrical appliance 200.

[0028] Electrical appliance 200 may be any of a wide variety of devices. Electrical appliance 200 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. Electrical appliance 200 may be a communication device, including inter alia a telephone, a fax machine and a cell phone. Electrical appliance 200 may be a piece of office equipment including inter alia an office computer, and printer and a scanner. Electrical appliance 200 may be a home appliance including inter alia a refrigerator, a microwave oven, a stove, a washing machine, a drying machine, an air conditioner. Electrical appliance 200 may be a consumer appliance including inter alia a personal computer, a personal data assistant (PDA), an automobile, a treadmill and a camera. Generally, electrical appliance 200 includes a user interface 220 for activating functions of appliance 200, and a storage memory 230 for recording information 240 about the electrical appliance and its purchase. Such details may include inter alia a serial number for appliance 200, a model number, a software/firmware version, a date of purchase and an identifier for the store where appliance 200 was purchased.

[0029] In accordance with an embodiment of the present invention, electrical appliance 200 includes sensors 250 for use in diagnostics. A sensor is a type of transducer which converts a signal into a reading for the purpose of information transfer. There are direct-indicating sensors which are human-readable, e.g., a mercury thermometer. Other sensors that may be embedded in an electrical appliance are sensors that produce an output voltage or such other electrical output which is interpreted by another device. Most sensors are electrical or electronic, although other types exist. Sensors used in diagnostics of appliance 200 in accordance with the present invention include inter alia thermal sensors, electromagnetic sensors, mechanical sensors, chemical sensors, optical radiation sensors, ionizing radiation sensors and acoustic sensors. CC 100 is used to send information about electrical appliance 200 and its owner to one or more of the seller, manufacturer and service provider 300. The information sent by CC 100 includes diagnostic reports for appliance 200. When CC 100 is connected to appliance 200, appliance 200 serves as a host device. For maintenance and repair of appliance 200, diagnostic program code 122 programs CC 100 (i) to run diagnostic tests on appliance 200; and (ii) to forward the test results to the seller, to the manufacturer or to the service provider 300 for appliance 200, as appropriate, using modem 145. As above, CC 100 creates a file or text message that includes the relevant diagnostic monitoring data, shown as service report 320 in FIG. 1. An example of such file or text message is as follows.

<table>
<thead>
<tr>
<th>Device details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Audio Receiver</td>
</tr>
<tr>
<td>Brand: Yamaha</td>
</tr>
<tr>
<td>Model: RX-V2700</td>
</tr>
<tr>
<td>S/N: 12345-ABCDE</td>
</tr>
<tr>
<td>Problem Diagnosed</td>
</tr>
<tr>
<td>Description: Over-heating</td>
</tr>
<tr>
<td>Owner Details</td>
</tr>
<tr>
<td>Name: John Smith</td>
</tr>
<tr>
<td>Phone: 123-456-7800</td>
</tr>
<tr>
<td>Cell: 098-765-4321</td>
</tr>
<tr>
<td>Email: <a href="mailto:John.Smith@anonymous.com">John.Smith@anonymous.com</a></td>
</tr>
</tbody>
</table>

[0030] In another embodiment of the present invention, CC 100 transmits the service report via an e-mail message. In yet another embodiment of the present invention, CC 100 transmits the service report via an SMS or MMS message. In yet another embodiment of the present invention, CC 100 places a voice call to the seller, manufacturer or service provider 300 with the information indicated in the text above, using text-to-speech conversion.

[0031] In accordance with an embodiment of the present invention, diagnostic tests may be scheduled periodically, or initiated manually by the owner, or initiated remotely via the CC.

[0032] Reference is now made to FIG. 4, which is a simplified flowchart of a method for reporting diagnostics for electrical appliances using a communication card, in accordance with an embodiment of the present invention. At step 410 a consumer inserts a communication card into an electronic appliance, which serves as a host device for the CC. At step 420 the CC monitors the appliance by running diagnostic testing program code that is stored in memory of the CC. At step 430 a determination is made whether a problem has been detected. If not, the method returns to step 420 to continue monitoring the appliance while the CC is connected thereto. Such monitoring may be continuous monitoring or scheduled periodic monitoring.

[0033] Referring back to step 430, if a problem is detected, then at step 440 the CC controller collects host appliance information that is stored in a host memory. Such information includes inter alia an appliance serial number and a model number. The CC controller also identifies a malfunction type corresponding to the detected problem. At step 450 the CC controller collects owner data that is stored in memory of the CC or in the SIM of the CC. At step 460 the CC controller collects contact information for the seller, manufacturer or service provider of the host appliance. At step 470 the CC contacts the seller, service provider or service provider contacts the owner of the appliance regarding the malfunction.

[0034] In another embodiment of the present invention, instead of or in addition to generating reports, CC 100 sends diagnostic information it collects to a server computer. In this regard, reference is now made to FIG. 5, which is a simplified block diagram of a web-based device diagnostic system, in accordance with an embodiment of the present invention.

[0035] A server computer 500 includes a database with serial numbers, or such other identifiers of electrical appliances 200, and information about their corresponding manu-
facturers, sellers or service providers 300. When CC 100 generates diagnostic reports, triggered by malfunctions or by routine maintenance schedules, CC 100 opens a TCP connection and generates an HTTP request to computer server 500, the request including inter alia the serial number of appliance 200, contact information, such as a telephone number, for the owner, and a malfunction descriptor. An example of such an HTTP call is:


[0036] Server information for computer server 500, 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 CC 100.

[0037] Also shown in FIG. 5 is an application programming interface (API). After receiving the HTTP request with the serial number of appliance 200, server computer 500 locates the relevant information about manufacturer, seller or service provider 300 for the serial number, and transmits a diagnostic report for appliance 200 to manufacturer, seller and service provider 300, via the API. The diagnostic report may be transmitted ad-hoc, in the case of a malfunction, or routinely. In this way, manufacturer, sellers and service providers 300 receive diagnostic reports for the appliances 200 that they are responsible for. This embodiment is described as “push” mode, since server computer 500 pushes the diagnostic reports to manufacturers, sellers and service providers 300.

[0038] In accordance with a “pull” mode embodiment of the present invention, manufacturer, seller or service provider 300 uses the API to access server computer 500 and extract diagnostic reports for the appliances 200 that they are responsible for from a website 510. In this embodiment, manufacturers, sellers or service providers 300 pull their diagnostic reports from website 510.

[0039] Use of server computer 500 is of particular advantage when manufacturer, seller or service provider 300 changes its contact information. The change is recorded once in server computer 500, and does not need to be changed in appliances 200.

[0040] Additionally, server computer 500 may vary the format of messages sent to manufacturer, seller or service provider 300, so that diagnostic reports are transmitted via SMS, MMS, phone call, e-mail, HTTP request, or such other transmission format.

[0041] 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.

What is claimed is:

1. A system for maintaining an appliance, comprising:
   a storage housed within an electrical appliance for storing identifying information about the electrical appliance and its purchase; and
   a communication card comprising:
   an interface connector for connecting the communication card to the electrical appliance; and
   a wireless cellular modem for transmitting data, wherein when said communication card is connected to the electrical appliance via said interface connector, said communication card causes program code to perform at least one diagnostic test on the electrical appliance and to generate test results, to collect the identifying information about the electrical appliance and its purchase, and to transmit at least a portion of the collected information and the test results to at least one remote recipient using said cellular modem.

2. The system of claim 1 wherein the program code is stored within said electrical appliance storage.

3. The system of claim 1 wherein said communication card further comprises a card memory for storing the program code.

4. The system of claim 1 further comprising a controller housed within the electrical appliance for performing the at least one diagnostic test, upon instruction from the program code.

5. The system of claim 1 wherein said communication card further comprises a controller for performing the at least one diagnostic test, upon instruction from the program code.

6. The system of claim 1 wherein an owner of the electrical appliance invokes the program code to perform the at least one diagnostic test and to transmit the test results.

7. The system of claim 1 wherein the remote recipient invokes the program code to perform the at least one diagnostic test and to transmit the test results, via said communication card.

8. The system of claim 1 wherein the program code is scheduled to perform the at least one diagnostic test and to transmit the test results at regular periodic intervals of time.

9. The system of claim 1 wherein the identifying information about the electrical appliance and its purchase comprises a serial number, a model number, an identifier for a point of purchase from which the appliance was purchased, a date on which the appliance was purchased, and a warranty for the appliance.

10. The system of claim 1 wherein the identifying information about the electrical appliance and its purchase comprises contact information for the at least one remote recipient.

11. The system of claim 10 wherein the contact information for the at least one remote recipient is at least one call number for the at least one remote recipient.

12. The system of claim 1 wherein information about the at least one remote recipient is obtained from manually entered data.

13. The system of claim 1 wherein the at least one remote recipient is at least one of a seller of the electrical appliance, a manufacturer of the electrical appliance, and a service provider for the electrical appliance.

14. A method for maintaining an appliance, comprising:
   connecting a communication card to an electrical appliance, wherein identifying information about the electrical appliance and its purchase is stored within a memory in the electrical appliance;
   causing at least one diagnostic test to be performed on the electrical appliance;
   automatically collecting the identifying information about the electrical appliance and its purchase from the memory in the electrical appliance;
   opening a connection with at least one remote recipient, by the communication card; and
transmitting at least a portion of the collected information and the results of the at least one diagnostic test to the at least one recipient, by the communication card.

15. The method of claim 14 wherein the at least one diagnostic test is performed by the communication card.

16. The method of claim 14 wherein the at least one diagnostic test is performed by the electrical appliance.

17. The method of claim 14 wherein said causing and said transmitting are initiated by an owner of the electrical appliance.

18. The method of claim 14 wherein said causing and said transmitting are initiated by the remote recipient via the communication card.

19. The method of claim 14 wherein said causing and said transmitting are scheduled to occur at regular periodic intervals of time.

20. The method of claim 14 wherein the identifying information about the electrical appliance and its purchase comprises a serial number, a model number, an identifier for a store from which the appliance was purchased, a date on which the appliance was purchased, and a warranty for the appliance.

21. The method of claim 14 wherein the identifying information about the electrical appliance and its purchase comprises contact information for the at least one remote recipient.

22. The method of claim 21 wherein the contact information for the at least one remote recipient is at least one call number for the at least one remote recipient.

23. The method of claim 14 wherein information about the at least one remote recipient is obtained from manually entered data.

24. The method of claim 14 wherein the at least one remote recipient is at least one of a seller of the electrical appliance, a manufacturer of the electrical appliance, and a service provider for the electrical appliance.

25. A system for maintaining an appliance, comprising:
   a storage housed within an electrical appliance for storing identifying information about the electrical appliance; and
   a communication card comprising:
      an interface connector for connecting the communication card to the electrical appliance; and
      a wireless cellular modem for transmitting data, wherein when said communication card is connected to the electrical appliance via said interface connector, said communication card causes program code to perform at least one diagnostic test on the electrical appliance and to generate test results, to collect the identifying information about the electrical appliance, and to open a TCP connection to a server computer to transmit at least a portion of the collected information and the test results to the server computer using said cellular modem.

26. A method for maintaining an appliance, comprising:
   connecting a communication card to an electrical appliance, wherein identifying information about the electrical appliance is stored within a memory in the electrical appliance;
   causing at least one diagnostic test to be performed on the electrical appliance;
   automatically collecting the identifying information about the electrical appliance from the memory in the electrical appliance;
   opening a TCP connection with a server computer, by the communication card; and
   transmitting at least a portion of the collected information and the results of the at least one diagnostic test to the server computer, by the communication card.

27. The method of claim 26 wherein said transmitting at least a portion of the collected information and the results of the at least one diagnostic test comprises sending the collected information within an HTTP request.

28. The method of claim 26 wherein the server computer includes a database of remote recipients corresponding to respective electrical appliance identifying information, the method further comprising automatically transmitting, by the server computer, the at least a portion of the collected information and the results of the at least one diagnostic test to at least one remote recipient corresponding to the identifying information collected by said automatically collecting.

29. The method of claim 26 further comprising enabling at least one remote recipient to access the at least a portion of the collected information and the results of the at least one diagnostic test on a web site in communication with the server computer.

30. A wireless communicator, comprising:
   an interface configured to enable the wireless communicator to connect to a plurality of different electronic devices, wherein each of the plurality of electronic devices has device information;
   a memory storing a device diagnostic program, wherein the device diagnostic program includes instructions to perform at least one diagnostic test on the electronic device and to generate test results;
   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; and
   a controller coupled to said interface, said memory and said wireless modem, the controller configured to receive the device information from an electronic device connected to the wireless communicator, to execute the device diagnostic program, and to cause said wireless modem to transmit at least a portion of the device information and the test results to a recipient.

31. The wireless communicator of claim 30, wherein said memory stores personal information about a user of the wireless communicator and wherein said controller is also configured to cause said wireless modem to transmit at least a portion of the personal information to the recipient.

32. The wireless communicator of claim 30, wherein said memory stores contact information for a plurality of recipients, wherein each of the plurality of recipients is a manufacturer of electronic devices.

33. An electronic device, comprising:
   an interface configured to enable the electronic device to connect to one of a plurality of wireless communicators and to enable data to be transferred between the electronic device and a wireless communicator connected to the electronic device;
   a memory storing device information and storing a device diagnostic program, wherein the device diagnostic program includes instructions to perform at least one diagnostic test on the electronic device and to generate test results; and
   a controller coupled to said interface and said memory, the controller configured to execute the device diagnostic program when a first one of the plurality of wireless communicators is connected to said interface, and to transfer at least a portion of the device information and the test results to a wireless communicator connected to the electronic device, for transmission to a recipient.