PORTABLE ELECTRONIC DEVICES AND CARRYING CASES WITH BUILT-IN NETWORK DETECTORS

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ABSTRACT

A convenient configuration for determining the presence of a wireless network includes an electronic network detector device supported either on the carrying case for a portable electronic device or the device itself, be it a laptop or handheld computer, smart phone, or portable digital assistant. In the preferred embodiment, the electronic network detector device is supported on, or integrally formed with, the computer case. The detector may be disposed on a handle, shoulder strap, or other location providing convenient access. The network detector may detect a Wi-Fi network or other wireless infrastructure, and may show the signal strength of the network and/or the direction in which the signal strength of the network is the strongest.
PORTABLE ELECTRONIC DEVICES AND CARRYING CASES WITH BUILT-IN NETWORK DETECTORS

REFERENCE TO RELATED APPLICATION

[0001] This application claims priority from U.S. Provisional Patent Application Ser. No. 60/885,750, filed Jan. 19, 2007, the entire content of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] This invention relates generally to portable computing devices and, in particular, to computers and carrying cases with built-in network detectors.

BACKGROUND OF THE INVENTION

[0003] Small retail stores such as coffee shops, and much larger public buildings, including airports, are being equipped with complementary or password-protected wireless networking. Currently the most common protocol is Wi-Fi, a technology based on IEEE 802.11 standards. Another popular protocol is Bluetooth.

[0004] If a computer user knows that a network signal is available in a particular location, he or she can simply activate their portable computing device and go online. If a person does not know whether a network is available, they must sometimes walk around with their laptop or other device turned on to “hunt” for a signal.

[0005] To assist in this process, very small network signal-strength detectors have recently become available. Conveniently, some of these are small enough to fit on a keychain as a “fob.” Devices of this type are described in Published U.S. Patent Application Serial Nos. 2005/0176420 and 2007/0253395, the content of both being incorporated herein by reference. However, even with such devices, electronic device users in unknown environments need to refer to two different devices to locate a network having sufficient strength, often referring back and forth between their keychain and portable electronic device.

SUMMARY OF THE INVENTION

[0006] This invention provides a convenient configuration for determining the presence of a wireless network by providing an electronic network detector supported either on the carrying case for a portable electronic device or the device itself, be it a laptop or hand-held computer, smart phone, or portable digital assistant.

[0007] In the preferred embodiment, the electronic network detector device is supported on, or integrally formed with, the computer case. The detector may be disposed on a handle, shoulder strap, or other location providing convenient access. The network detector may detect a Wi-Fi network or other wireless infrastructure, and may show the signal strength of the network and/or the direction in which the signal strength of the network is the strongest.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 shows a computer case according to the invention having a handle including a network detector activated by a button;

[0009] FIG. 2 shows a network detector located in the shoulder strap of a carrying case; and

[0010] FIG. 3 shows how a detector may be located on the computer case itself.

DETAILED DESCRIPTION OF THE INVENTION

[0011] This invention addresses the issues outlined above by providing a network signal-strength detector in a piece of computer luggage. The preferred embodiment is shown in FIG. 1. A computer case 102 having a handle 104 includes a network detector 106 activated by a button 108. This allows the user to look for sufficient signal strength by simply pressing the button with their thumb while holding their computer case, thereby eliminating the need to refer to a different item, such as a key fob.

[0012] The invention is not limited in regards to the type of network detected, and the display of signal strength is optional. That is, the invention is compatible with Wi-Fi and any other available or yet-to-be-developed networks, and a simple yes/no type of display may be used or even a more sophisticated capability including arrows to guide a user to the strongest signal available.

[0013] FIGS. 2 and 3 illustrate alternative embodiments of the invention, wherein, in FIG. 2, the network detector is located in the shoulder strap of the carrying case. Alternatively, the detector may be located on the computer case itself, as shown in FIG. 3. As a further alternative, though not shown, a network detector may be provided as a separate unit, using hook-and-loop fasteners or other attachment means, to place it on to the computer case in any of the locations described herein. This would allow it to be removed, and perhaps used as a key fob, for other applications.

I claim:

1. Network detection apparatus, comprising:
   a carrying case for a portable electronic device; and
   an electronic wireless network detector device integrated on the device.
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2. The apparatus of claim 1, wherein:
   the carrying case has a handle; and
   the network detector is supported on the handle of the case.

3. The apparatus of claim 1, wherein:
   the carrying case has a shoulder strap; and
   the network detector is supported on a shoulder strap of the case.

4. The apparatus of claim 1, wherein the network detector detects a Wi-Fi network.

5. The apparatus of claim 1, wherein the network detector detects a Bluetooth signal.

6. The apparatus of claim 1, wherein the network detector shows the signal strength of the network.

7. The apparatus of claim 5, wherein the network detector displays the direction in which the signal strength of the network is the strongest.

8. Network detection apparatus, comprising:
   a portable electronic device; and
   an electronic wireless network detector device integrally formed on the device.

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