SHOWING DEVICE DISINFECTION STATUS USING SENSORS AND VISUAL/AUDIBLE INDICATORS

HP INC
Showing Device Disinfection Status using Sensors and Visual/Audible Indicators

Abstract: The cleaning or disinfection status of an electronic device can be detected using sensor(s) on the device which detect the presence of cleaning or disinfecting solutions.
This disclosure relates to the field of electronic devices.

A technique is disclosed that automatically detects and notifies the user of the cleaning and/or disinfection status of an electronic device.

In the time of a pandemic in the form of a highly contiguous virus, devices such as monitors, notebook and laptop computers, smartphones, PCs, and accessories like keyboard and mouse must be cleaned frequently. Cleaning is even more urgent for devices which are used or shared by multiple users. Today, alcohol-based solutions are highly effective against killing bacteria and viruses.

Up to now, a user of his or her own device needs to keep their own log of device cleaning. For shared devices, the cleaning status is not known to a subsequent user. Some devices may maintain logs electronically in the device, but a user who wishes to access the electronic log will have to touch the device before knowing whether or not it is currently clean.

According to the present disclosure, one or more sensors embedded on the surface of devices sense the presence of a cleaning solution, such as alcohol, and make a record of the time the cleaning occurred. A timer automatically starts after presence of the cleaning solution has been detected (the user can initially set the amount of time). If the timer expires before presence of the cleaning solution is again sensed, the sensors automatically trigger its indicators to let user know that the device needs to be cleaned before it should be used. These indicators can be one or more of LEDs, screen notifications (in the case of displays), and audible sounds through speakers. Notifications can also be configured to be sent to a remote device over a network or the Internet.

The sensor can detect one or more cleaning solutions. For example, one type of sensor detects the presence and concentration of alcohol with sufficiently high sensitivity and response time. The sensor could provide, for example, an analog resistive output based on alcohol concentration, which can be adjusted for the desired level of alcohol concentration detection to indicate that the adjacent surface of the device has been cleaned with alcohol.

The disclosed technique can advantageously inhibit or prevent the spread of germs that reside on the surface of devices. When used in hospital environments, it can clearly and automatically identify to hospital personnel medical devices which are in need of cleaning and disinfection.

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