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A WAY TO DISINFECT THE SURFACE

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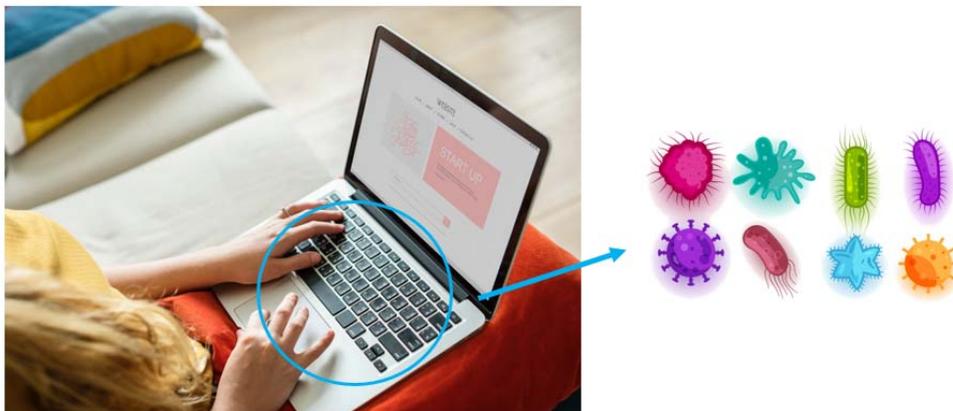
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A way to disinfect the surface

Abstract

Due to the virus and the bacteria that are around in the world, the users cannot ensure the notebook is always clean completely. Especially the C cover with keyboard, touchpad and palm rest, it might have lots of unclean stuff on it.

Lots of reports claim the virus and bacteria can't survive under high temperature condition, for example, the COVID-19 will be killed with 56C or higher after 30 minutes. According above condition, we found notebook can achieve the temperature easily, so we provide a new way to kill the virus and bacteria with high temperature which is provided by system.



Problems Solved

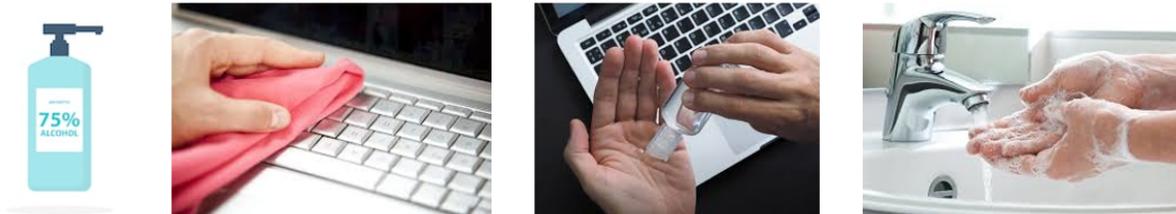
The notebook C cover is a “use frequently” part for the users, the keyboard, touchpad and palm rest are the places users touch often. If the users don't wash their hands always, and speak without a mask, the virus and the bacteria are possible to attach to the C cover.

Our design created a new “cover clean mode” for the users and change the thermal algorithm to let the system goes to high temperature within system safe.



Prior Art

The prior art for clean notebook C cover is to use alcohol to wipe the keyboard, touchpad, and palm rest. Some users wash their hands usually to prevent the virus and the bacteria attach to the notebook.



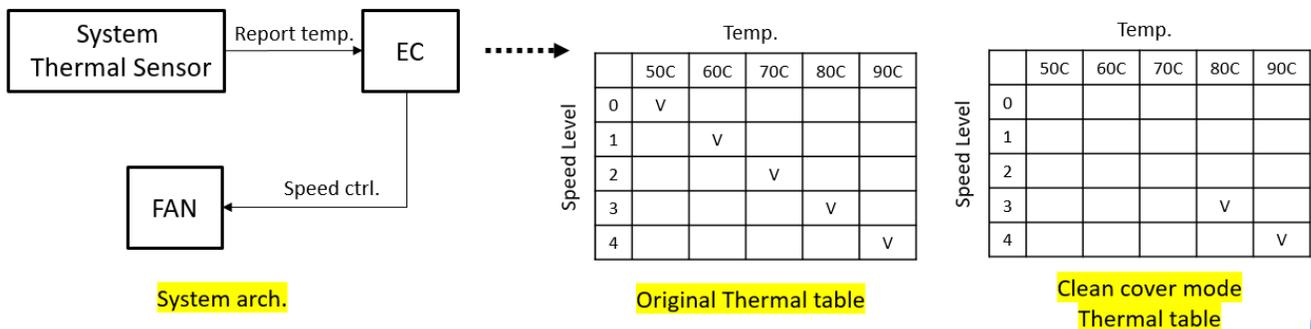
Product Drawing:

In the original design, the system temperature data detected by a thermal sensor, and it report to the EC, then EC send the different speed signal to control the fan module.

Our design doesn't change any connection, we only add an algorithm to lower the fan speed and force the system to go to high temperature 60C. We call it "clean cover mode".

We use the CPU/GPU high-temperature characteristic, if the fan speed is low, the system temperature will increase.

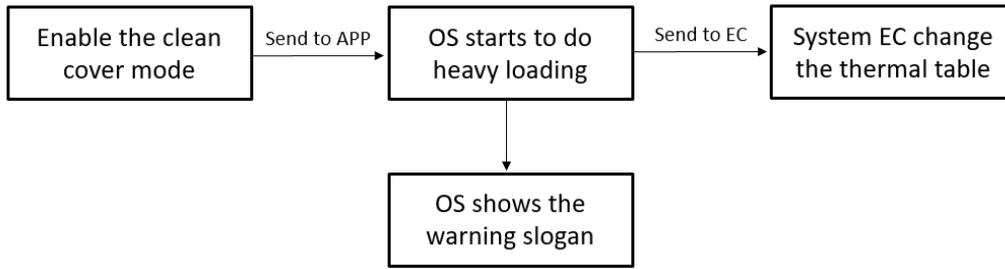
In our study, the 60C is safe for CPU/GPU and the notebook C-D covers all components.



In the clean cover mode, the system starts to do heavy loading for CPU/GPU, it causes the system temperature goes to high level. Due to the thermal table is different with original one, we could control the system temperature to keep in 60C or higher. (Right table)

Below is SW portion block diagram, when the user enables the "clean cover mode", the screen shows the warning slogan to prevent the user touch the C cover. This mode will continue 30 minutes, of course, the users can adjust the time by themselves.

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Advantages

When the users want to clean their C cover, we can provide a new way “clean cover mode” to use high temperatures to kill the virus and bacteria at any time. It increases the user experience for the users and this topic is very popular in 2020.



Disclosed by Kirt Ke, Yen-Chi George Chen and Hertz Tseng, HP Inc.