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May 2021

PREVENT SYSTEM ABNORMAL WAKE UP ON SLEEP STATE

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Recommended Citation

INC, HP, "PREVENT SYSTEM ABNORMAL WAKE UP ON SLEEP STATE", Technical Disclosure Commons, (May 07, 2021)

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Prevent system abnormal wake up on sleep state

Abstract

Nowadays, all notebooks have the function of sleep, and the wake-up system via wireless USB mouse is one of the ways. However, we sometimes forget to turn off the mouse and put the notebook with sleep state into the backpack. When we accidentally touch the mouse, the notebook will wake up, which will consume the battery life, even run out of power, and the backpack will overheat. Our invention uses pressure sensors detection to prevent system abnormal wake up on sleep state.

System Architecture

The system is based on PC architecture to add pressure sensors to achieve the new feature. We use pressure sensors (Fig 2. red marked) installed on the four sides of the hinge up (panel side) of notebook with lid switch (Fig 2. blue marked) controlled by Embedded Controller. Once any side of sensors is under pressure, it will output a signal to EC. Lid switch is installed on hinge up and connect output to EC. When close the notebook, lid switch will trigger signal to EC.

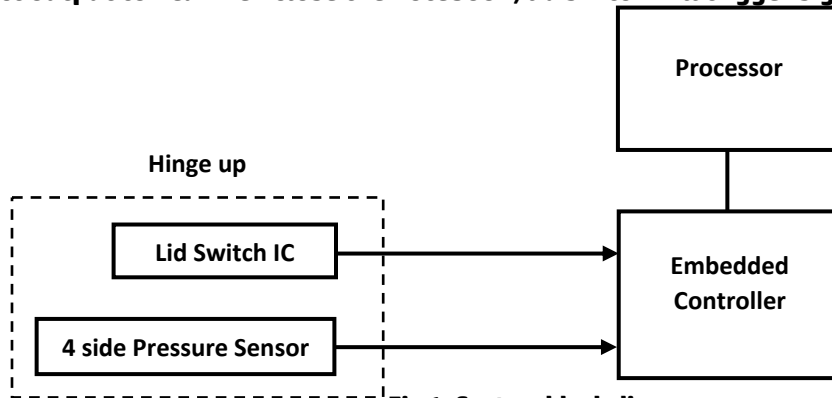


Fig 1. System block diagram

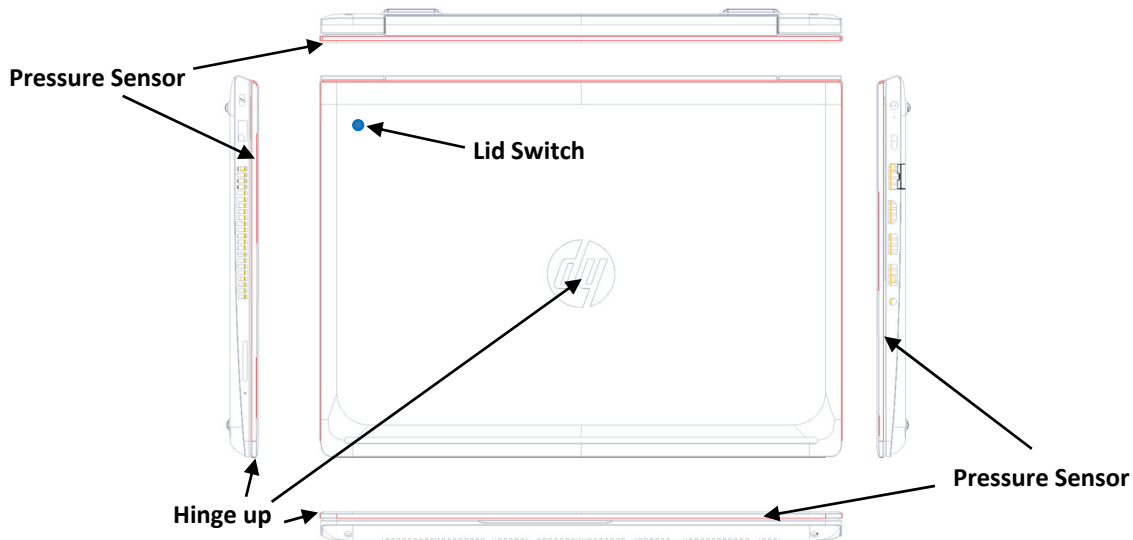


Fig 2. Pressure sensor location on hinge up

Detailed description of the idea

When the notebook with sleep state is put into the bag, one of the four sides of the computer is pressed against the inside of the bag due to gravity. At this time, the pressure sensor is activated, and the lid switch on the hinge up is closed to output trigger at this time. Embedded Controller will determine that if these two conditions are met at the same time. If yes, system will block any wake up event by peripheral device, even if the wireless mouse is accidentally touched, the notebook cannot be woken up, so as to protect the notebook from overheating and avoid consuming battery time or even running out of power.

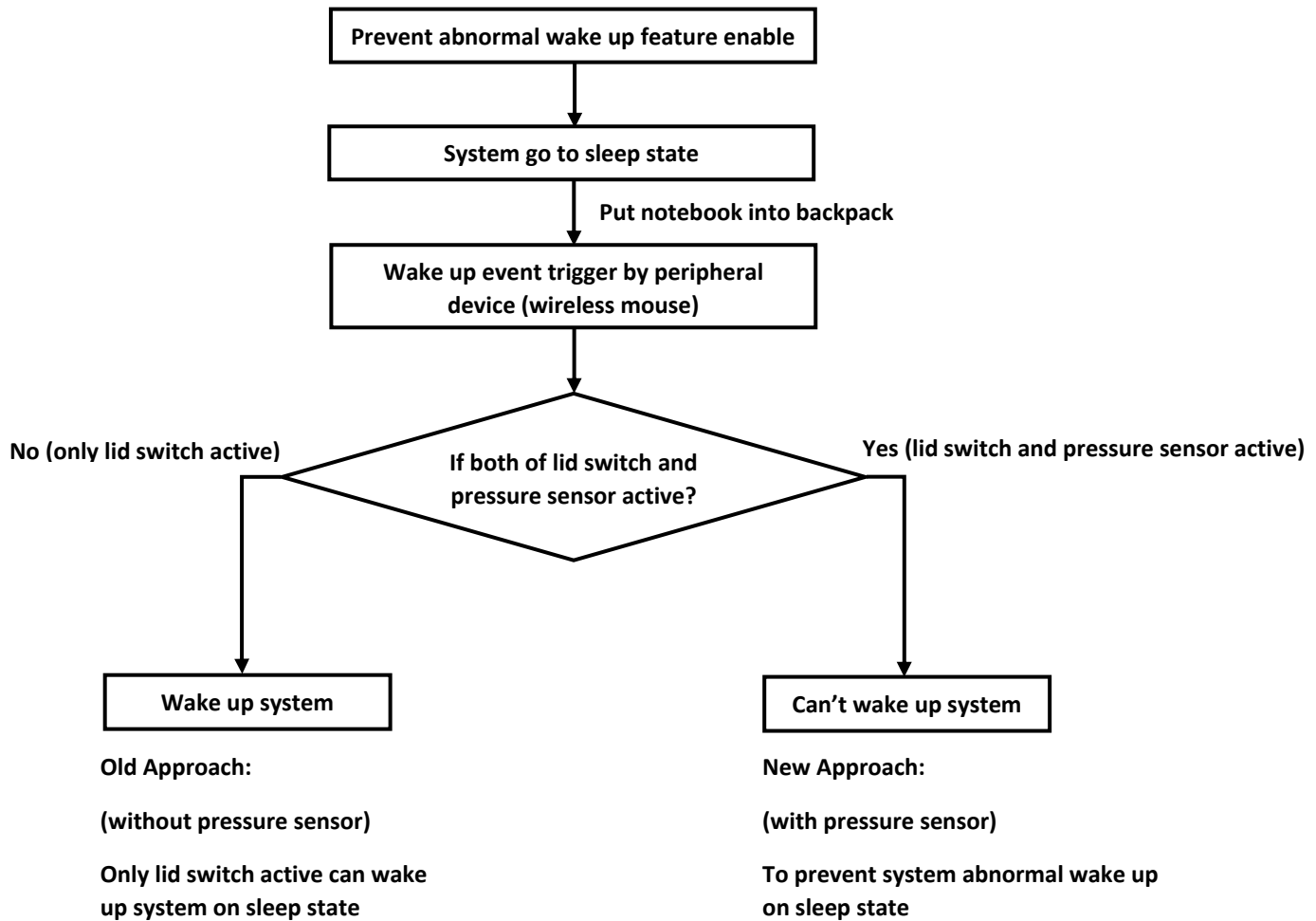


Fig 3. Prevent abnormal wake up flow chart

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