Technical Disclosure Commons

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NEW WAKE UP SCENARIO: WAKE ON PICK UP

HP INC

New Wake up scenario: Wake on Pick Up

Abstract:

Nowadays there're more and more intelligent and convenient ways to wake laptops up from sleep/hibernate mode, such as remote wake up via Internet, wake on voice detection, Human Presence detection…etc. Here we'd like to present ano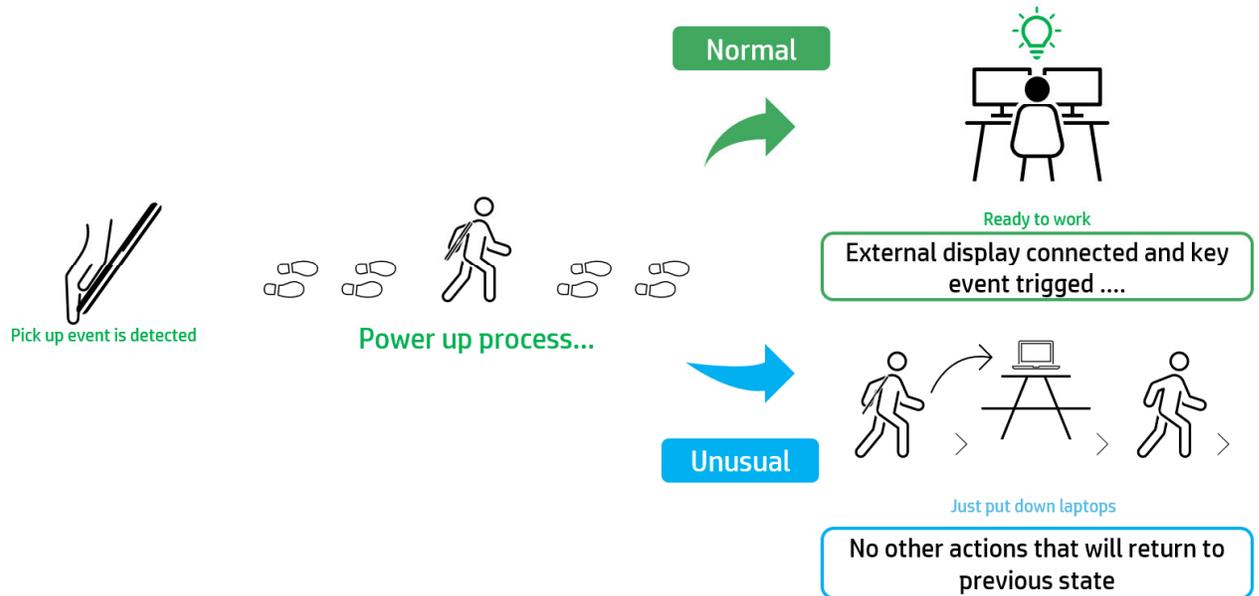ther approach – Wake on Pick up detection, which allows users to wake up their laptops while they're working at home and moving their laptops to their workspace. This feature would benefit some scenarios that users pick up their laptops to another place to work, the laptops will be powered on while the laptop is picked up so that when users arrived their workspace start to work, they'll get their laptops ready to work.

Problem Solved:

BEFORE

Power off

Power off

Push power button and wait ~10secs to power up

Living Room > **Moving...** > **Bedroom (workspace)**

AFTER

Pick up event is detected

Power up process...

Ready to work
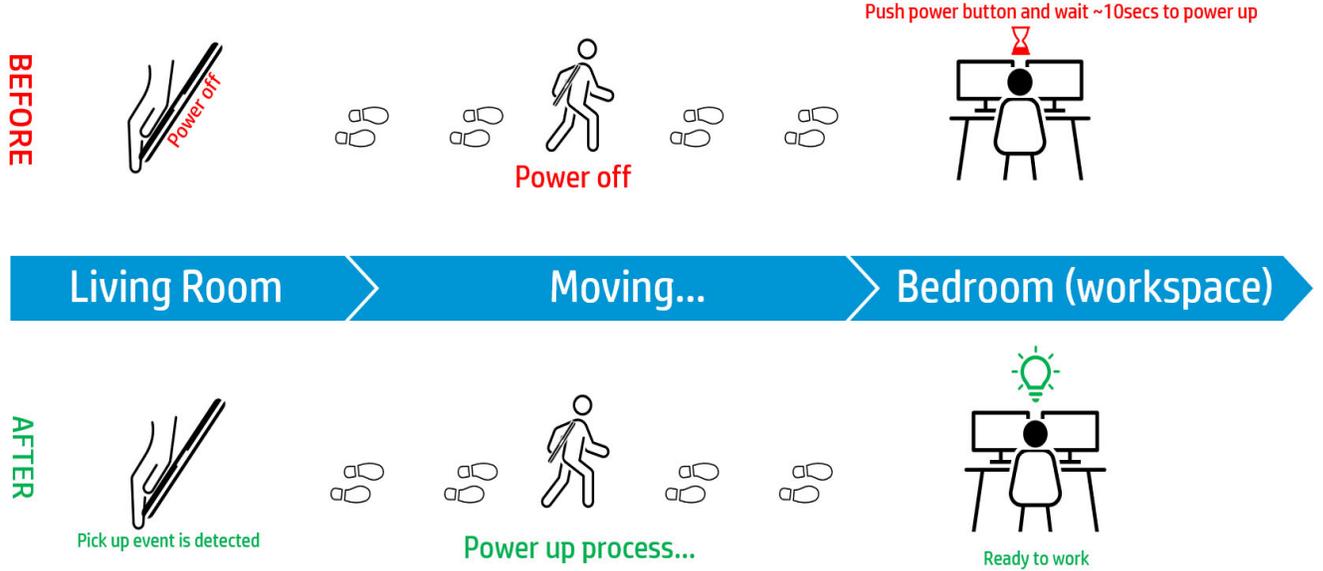
Prevent Unnecessary Triggering scenario

Pick up event is detected

Power up process...

Normal

Ready to work

External display connected and key event trigged ....

Unusual

Just put down laptops

No other actions that will return to previous state

Prior Solutions:

There're several innovative ways to wake up system, like Human Presence detection is widely used in smartphone/Laptop industries. However, this mechanism can only wake up system when the system is in "sleep mode", if end user shutdown or hibernate the system, the only way to wake up system is to push power button or open the lid. We'd like to offer users wake from pick-up scenario so that users' laptop can be powered on prior than they are sitting down and push power button.

Prior Solutions:

Implementation/Product Drawing and Algorithm
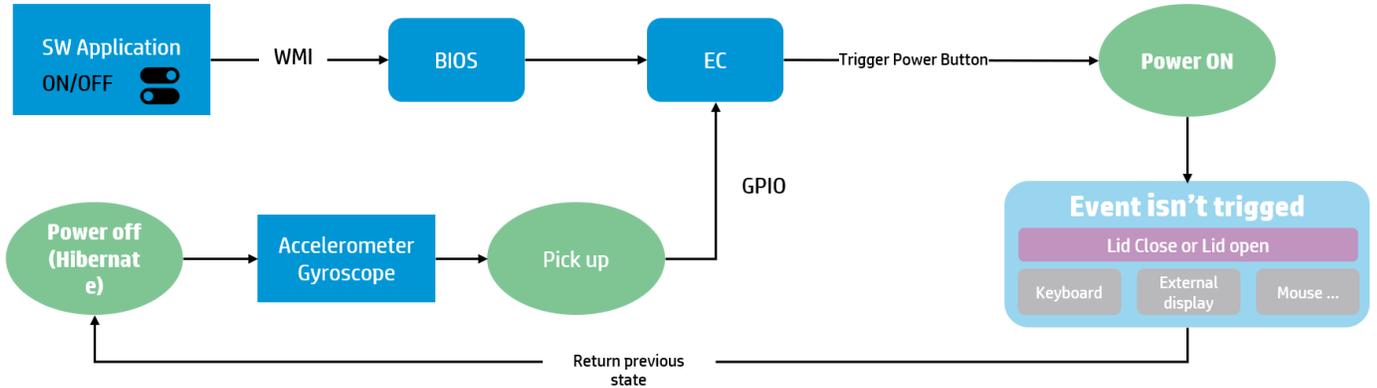
- ✓ The laptop is put on table with lid closed/opened and get in Hibernate – System trigger wake up event based on pick up detection mechanism.
- ✓ When user just put down notebook at table or desk, regardless of the state sensor and input device will detect user's action to identify whether user need to use notebook.
- ✓ If user's usage behavior isn't detected, the system will return to previous state that it depends on setting to keeps battery level.
- ✓ Sensor sends wake event to EC via GPIO, and EC checks if system was entering S4/S5 within X mins (e.g. 5mins) —
  - If system stays in S4/S5 < 5mins → Do nothing
  - If system stays in S4/S5 > 5mins → EC triggers power button to wake up system.
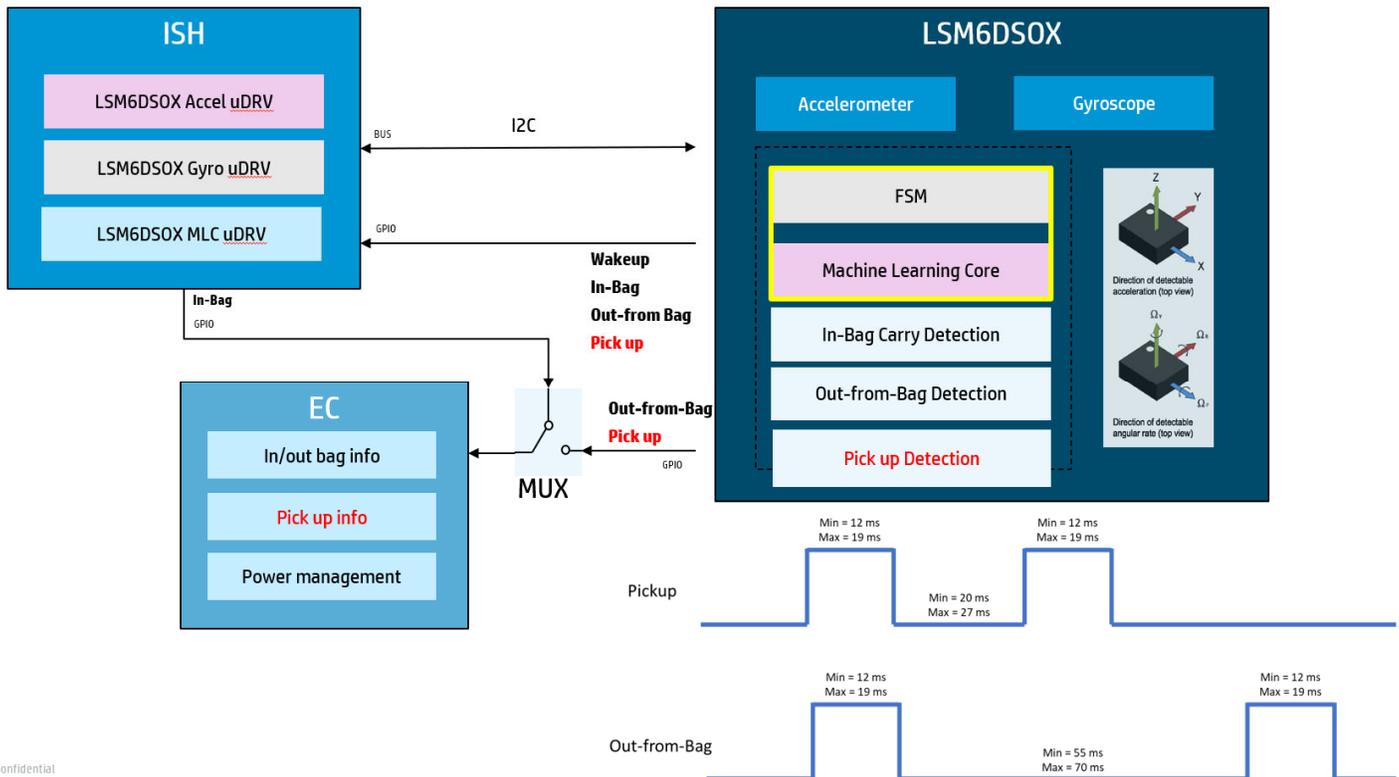
Advantages:

➢ With Wake on Pick up feature, users will get their PCs ready to work prior than they start to work.

➢ Either lid-open or lid-close mode that can reduce waiting time with power up and resolve malfunction to maintain battery level.

➢ When user just put down laptops that also could been detected, it will auto resume previous status to keep away from unnormal events.

➢ The Pickup feature wouldn't been triggered to avoid repetitive operations if system hasn't entered S4/S5.

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