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## Braille Reader-Integrated Keyboard

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## **BRaille READER-INTEGRATED KEYBOARD**

### ABSTRACT

Systems, devices and methods of providing braille reader-integrated keyboard for use by both visually impaired and sighted users are disclosed. The keyboard is provided with a braille reader of 10 mm or less width, above the function keys of a normal laptop keyboard. Buttons are provided on the side of a regular QWERTY keyboard layout, that allow navigating the menus. The method envisages swapping the existing off-shelf keyboard of any laptop or other computing device for the braille reader-integrated keyboard. The integrated keyboard has several functions including being detectable by the system, and other accessible-friendly features such as audio feedback.

### BACKGROUND

Currently, people who are visually impaired have to buy expensive external keyboards that connect to their existing personal computers (PCs) through a universal serial bus (USB) connector. These external keyboards are an accessory to the existing braille devices, and they still do not accomplish the goal of teaching visually impaired people the method to write on existing QWERTY keyboards. A few limitations of existing braille keyboards include very thick or unwieldy devices and lack of standardization. Therefore, there is a need for a better method to develop a user-friendly braille reader-integrated keyboard for visually impaired users.

### DESCRIPTION

This disclosure presents systems, devices and methods of braille reader-integrated keyboard for use by both visually impaired and sighted users. The system depicted in FIG.1 comprises a keyboard that is provided with a braille reader above the function keys of a normal laptop. The keyboard additionally has navigation buttons on the side as shown in FIG.

1. The method envisages enabling swapping the existing off-shelf keyboard on a standard laptop to the integrated braille reader easily.

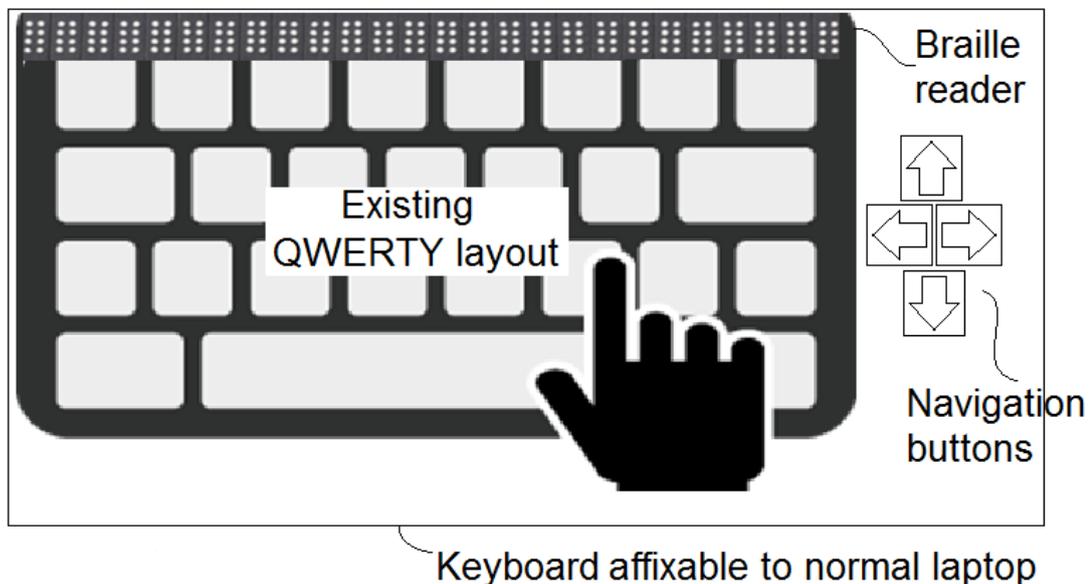


FIG. 1: Braille keyboard

The integrated keyboard disclosed has several functions:

- 1) 10 mm or less top row of dots enabling the braille reader
- 2) Buttons on the side that allow navigating the menus
- 3) Re-use of the existing QWERTY keyboard layout to retain it on users' existing laptops
- 4) Changes to system software that enable detection of the braille reader-integrated version.
- 5) Accessible-friendly user interface (UI) by enabling audio feedback or other screen reader applications.

A standalone keyboard as disclosed above can be implemented to allow users to swap them by simply using a single fastener at the bottom of the laptop and inserting the braille-capable keyboard instead.