



Device to enable access of Computers to Physically Disabled

TECHNOLOGY AVAILABLE FOR TRANSFER

UNMET NEED AND OPPORTUNITY

The present technology will be useful for the handicapped persons with disability/ with no arms, and will enable their access to computer. About 15% of the world's population, have some form of disability. Between 110 million and 190 million adults have significant difficulties in functioning. India has around 60 million people with disability. The population with disability in upper extremities are unable to access the computer, which is a major barrier of education and employment. This technology is a head mounted device which acts as wireless mouse & keyboard as well.

TECHNOLOGY

The technology provides an assistive device for those unable to use their hands to access computers. The device includes a spectacle frame to be worn by user and a bluetooth device to be connected with computer. The chargeable battery operated device is enabled with sensors for eyewink sensor, lenses, head movement and audio. The user is able to access the computer by connecting the device through bluetooth. The single eye blink corresponds to a left click, and a successive eye blink corresponds to a double click or vice-versa. The cursor movement corresponds to head movement of the user. Being wireless the device is easy to use.

IP STATUS

- Indian patent filed in 2018
- PCT application filed
- Design registered

KEY FEATURES

1. Cost effective, indigenously developed technology
2. Useful for differentially abled people who cannot control the computers using their hands.
3. The device system is compatible with any computer.
4. User can operate computer from a maximum distance of 500 meters.

STAGE OF DEVELOPMENT

1. Proof of concept is established in lab set-up
2. Validated in-house

ADVANTAGE

1. Operated by head movement and eye blink
2. Cost effective
3. Wireless
4. Ease of use
5. Efficient in typing on computer by the command of eyeblink and head movement (an added advantage over predicates)

APPLICATIONS

1. Computer interaction device for physically disabled
2. Gaming devices
3. Driver fatigue detection application in vehicles

LICENSING OPPORTUNITY

BCIL is looking for a suitable industrial partner for commercialization of assistive device for differentially abled population.

References:

1. http://www.bbc.co.uk/accessibility/guides/factsheets/factsheet_keyboard_mouse_alt.pdf
2. <https://www.who.int/news-room/fact-sheets/detail/disability-and-health>
3. <https://gadgets.ndtv.com/laptops/news/lenovo-yoga-s940-price-in-india-rs-139990-launch-specifications-2077979>

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