

MoveMate: The Ergonomic Exercise Device for Chronic Office Workers

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Abstract

Modern work culture and persisting long work hours in Thailand have inevitably contributed to the rise of discomfort through office syndrome as well as ergonomic medical conditions. These issues are revealed to be induced due to a lack of bodily mobility and poor posture during work hours. In order to mitigate this, *MoveMate* has been carefully contrived; a wearable wrist device that accommodates for a lack of work-life exercise through applying *BBC micro:bit* technology and machine learning processes. The device aims to provide a portable prototype which functions in the assistance of a simple exercise routine through trained moves inputted into the *micro:bit* system. *MoveMate* is targeted towards workers, typically corporate and office workers among the ages of 28 to 32 aiming to alert and assist exercise in work hours. Operating the device is simple with only one push of button A, button B, or buttons A and B simultaneously on the *micro:bit* panel. Each push triggers a specific move, and upon completion, the *micro:bit* plays a sound and tracks the total number of repetitions. Additionally, it increments an alert system emitting a sound every hour to keep the user active. Through actively recognizing miniscule irritations that contribute to ergonomic issues, alleviating problems that affect young office employees are now made easier and effective through the usage of *MoveMate*'s alerting and exercising assistance and movement implementations.

Keywords

Alert system, Office syndrome, Office workers, Simple exercise, Wearable device.