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ACCURATE BREAK REMINDER BASED ON FATIGUE DETECTION BY ToF SENSOR

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Accurate break reminder based on fatigue detection by ToF sensor

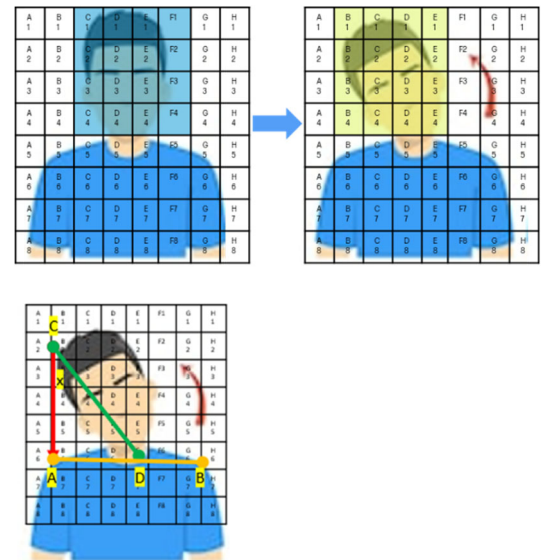
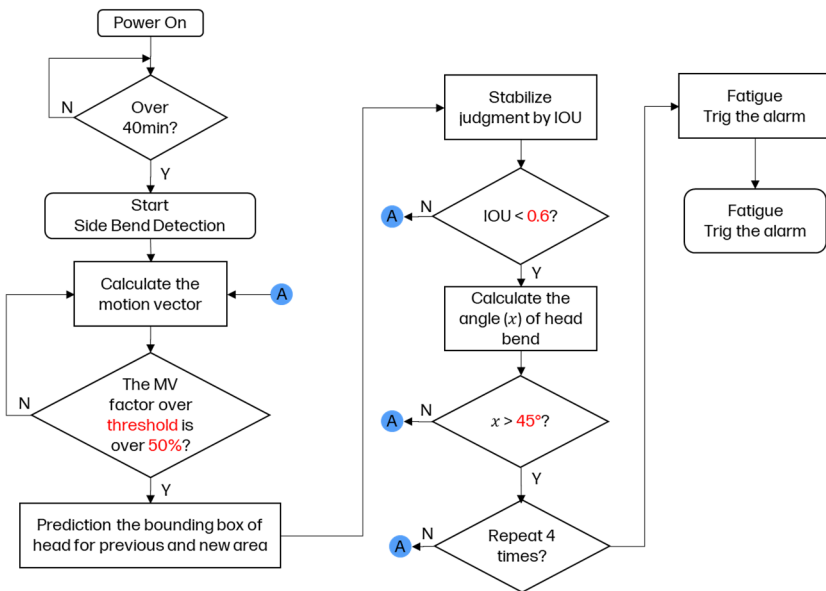


This disclosure is using ToF sensor to detect user's body fatigue symptom e.g., side-bend/wingspan/neck rotation/shoulder shrug/back and forward bend/neck rotation...etc. stretching movement caused by fatigue, which calculated through unique algorithm to trigger the message of fatigue detection to increase the accuracy of sending break reminder.

Brake reminder was designed to ensure users' productivity. The existing break reminder based on screen turn-on duration with low level of accuracy related with users' physical fatigue. Those reminders are annoying users with limited help for user's true well-being.

The new idea is using ToF (8 by 8 distance data) with specific algorithm to detect the user's head movements while stretching to relief neck and shoulder pain to increase the accuracy of break reminder sending by true fatigue detection. This sensor solution allows users to optimize their well-being for work-life balance and increase their productivity in a long run. User activity and presence can be detected with this low-power, non-privacy intrusive ToF sensor. (ToF sensor provides absolute distance measurement and detection of user, only distance data no image)

Flow Chart & Algorithm:



Disclosed by Bryan Chuang, Dennis Mo, Nam H Nguyen, Ashley Lu, Shao Fan Wu and Ting-Yang Tsai, HP Inc.