Abstract

When driver is in the state of drowsiness he can cause accidents. This state is the state between being awake and asleep. In this state driver reaction time is slower, his attentiveness is reduced, and his information processing is less efficient. Driver Fatigue Detection System (called FDS) has been proposed by the authors in a recent work. The FDS aims to monitor the driver and the alertness to prevent them from falling asleep at the wheel. FDS is very hard to fix in a car. In the present paper, the FDS software is modified and new system WakeApp is developed to be run in smartphone instead of Laptop and use all advantages of smartphone like camera and late weight. The WakeApp will solve this problem by using a mobile phone camera; the phone will be put on a stand in the car to make the driver feels comfortable. The WakeApp has hardware and software components such as mobile camera and Android SDK. Both components are integrated together to record real video for the driver, and then processing it for real-time eye tracking. WakeApp has reserve all advantages in FDS like fast and real-time face and eye tracking, external illumination interference is limited, more robustness and accuracy
allowance for fast head/face movement. The Main goals of WakeApp are to ensure that the
driver is staying awake during his drive, make the driver feels comfortable and to help decrease
the number of accidents.

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Keywords

FDS, Android SDK, WakeApp