Anti Sleep Alarm for Drivers Using Arduino

Kalyani Kumari Paswan[1], Kiran R A[2], Lakshmipriya V[3],
Srilakshmi N M[4], Mrs. S Geetha Priyadharisini[5]

[1,2,3,4]BE Student, Department of Electronics and Communication
[5]Associate Professor, Department of Electronics and Communication
East Point College Of Engineering and Technology, Bangalore, Karnataka, India.

Abstract: *Drowsy driving is a significant cause of road accidents worldwide, often leading to severe consequences for drivers, passengers, and pedestrians. To address this issue, we propose Safe Drive, an innovative driver alert and vehicle control system designed to enhance road safety by detecting drowsiness and initiating preventive measures. The system uses an eye blink sensor to keep tracking how often the driver blinks, checking it in real-time. Upon detecting signs of drowsiness, the system triggers a buzzer to provide an audible alert, ensuring immediate driver attention. Additionally, a 12V water spray pump is activated via a relay to deliver a light spray of water onto the driver, effectively waking them up. For enhanced safety, the system incorporates a second relay to deactivate the DC motor, simulating the vehicle's halt to prevent potential accidents. Built on an Arduino UNO platform, the system is cost-effective, compact, and easy to implement in vehicles. This project demonstrates a practical solution to mitigate the risks of drowsy driving, contributing to safer road environments. Future extensions could include data logging, mobile app integration, and advanced alert mechanisms to further enhance functionality*

Keywords: *drowsiness detection, road safety, eye blink sensor, Arduino, driver alert system, vehicle control*