THE ROBOTICS CLUB – SNIST

TEAM – 5

POST INDUCTION'23

Project Title

ABSTRACT

PROBLEM STATEMENT:

The increasing occurrences of accidents during overtaking can be attributed to several factors. Firstly, individuals with hearing disabilities often struggle to perceive auditory signals, including horn sounds from vehicles approaching from behind, rendering them unaware of potential hazards. Furthermore, the trend of working professionals participating in virtual conferences while driving diverts their attention away from the road, increasing the likelihood of accidents. Lastly, the prevalence of listening to loud music while driving not only impairs drivers' ability to hear other vehicles but also contributes to distraction. Whenever any vehicle tries to overtake, the hearing-impaired drivers have no indication or alert for this, hence leading to accidents specially while overtaking. Also, during heavy rains and foggy times, the visibility of vehicles on a rear-view mirror is less as compared to a normal day, hence there must be a system to alert the target vehicle about the presence of surrounding vehicles.

TEAM'S APPROACH TO THE PROBLEM:

Using Raspberry Pi Pico, we are developing a Driving Assistant Bot (DAB). DAB is equipped with Ultrasonic sensors to detect a close-by vehicle which is trying to overtake and gives the indication to the driver using led in front of the driver seat. Also, noise sensors are installed so as to detect horn sounds and indicate the driver. Additional feature of DAB is alcohol detection and communication to family members and local authorities.

BLOCK DIAGRAM: