

# Smart Vehicle Communication System For Collision Avoidance

Ranawaka M.N.<sup>1</sup> Liyanage K.S.<sup>2</sup> Wickramasinghe S.P.<sup>3</sup> Chandrasekara L.H.P.S.D. <sup>4</sup> Ms. Sanjeevi Chandrasiri<sup>5</sup> Ms. Ishara Weerathunga<sup>6</sup> Department of Software Engineering Sri Lanka Institute of Information Technology Malabe, Sri Lanka  
milindaranawaka@gmail.com<sup>1</sup> sandeepa8956@gmail.com<sup>2</sup> sewvandipw.98@gmail.com<sup>3</sup> ailichandrasekara@gmail.com<sup>4</sup>  
sanji.c@sliit.lk<sup>5</sup> [ishara.w@sliit.lk](mailto:ishara.w@sliit.lk)<sup>6</sup>

**Abstract**— The purpose of this research paper is to present a mobile-based solution the 'iDrive' application for safe driving and driver assistance. The paper begins by defining the research problem, which is the rapid intensification of motor vehicle accidents and the resulting number of deaths as a result of excessive speeding and other related factors. This paper also discusses previous related research work in this area, as well as its limitations. In this paper, we propose an Android-based application that monitors the vehicle via an On-Board Diagnostics (OBD-II) interface, allowing it to detect accident scenarios, as well as the appropriate speed for driving on the road based on their GPS location, and an automated communication system that shares detected collisions with nearby drivers. Furthermore, this paper discusses the research project's verified results as well as the evidence to show that the research met its primary goal.

**Keywords**— *driver assistant system; accident detection; speed limit; collision avoidance; OBD2; vehicle communication*