PROJECT OBJECTIVE

Project – Signs with Smart Connectivity for Better Road Safety

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The use of connected vehicles aims to address some of the main problems with transportation in the areas of environment, mobility, and safety. One of the key goals of this project is the application of the Intelligent Transport System (ITS) for safety. The goal of safety application research and industrial projects is to develop the vehicle industry globally. In this project, we concentrate on vehicle-to-vehicle (V2V) communication, which allows linked vehicles to share information with other vehicles on the road and helps to decrease highway accidents. Vehicle to vehicle (V2V) and vehicle to infrastructure (V2I) connectivity based on Wi-Fi, GPS, and dedicated short range communication are ultimately used to connect automobiles (DSRC). One of the most crucial simulators for the security of intelligent transportation systems is VANETS. Vehicle-to-vehicle (V2V) communication with minimal latency is supported by the usage of DSRC technologies. The speed limits and road signage in current systems are static. However, under specific circumstances, the signs may be modified. If the road signs are digitalized, we may take into account situations when there are detours due to traffic congestion or accidents and adjust the signs accordingly. This proposal suggests a system that uses digital sign boards with constantly changing signs. Rainfall causes the roads to become slick, and the speed restriction is lowered. There is a web application that allows you to enter information about road detours, accident-prone regions, and informational sign boards. This information is obtained and shown on the sign boards appropriately. It is obvious that intelligent road signs may greatly enhance our driving experience. They make it possible for drivers to access the information they require on the road more effectively and in real time. These warning indicators can raise people's awareness of impending problems that they might not otherwise see. They might improve the efficiency of autonomous vehicles. Don't undervalue the importance of using this technology. The potential for smart roadway indicators to boost cost-efficiency lessens the load on governments and taxpayers. They make driving easier for both conventional automobiles and autonomous ones. Compared to the analogue route signs we presently use, the placards may be easier for users to understand.

Above all, they might eventually result in a network of roadways that is safer for everyone. Intelligent roadside signage is not just a goal for the future. These road signs for England's roadways were produced in cooperation by two UK businesses. The signs feature cutting-edge graphics and language that are easy for drivers to read. Drivers are kept aware of changing route conditions by the clear and concise messaging. This innovative signage improves the user experience on the road while also being less expensive to maintain than conventional indications. The redesigned signage use less material and cabling, which saves on time, maintenance, and cost.

Municipal road infrastructure is being used by an increasing amount of traffic, which has a negative impact on both traffic efficiency and road user safety. 46% of fatal accidents include vulnerable road users (VRUs), such as pedestrians or bikers. Information sharing among drivers improves their perspective, making it a crucial component of any solution to this problem. We have described a system that uses a wireless local area network to automatically implement controls and inform drivers to speed limits in specific locations while reducing vehicle speed in sensitive public places without causing any driver interference.