Driving Assistant: Road System to Improve Driving Safety and Quality

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A large number of accidents are caused by the lack of driver's attention. Among them we can mention: Despite the fact that during the night the traffic is 15% lower, 40 % of all fatal accidents happen at night. Through this project, we aim to solve all these problems. The driver will not be distracted by the phone anymore because he will be able to use its basic functions through voice commands or gestures. Thus, he will not be distracted by the phone and he will receive all notifications through our system. Thanks to a video camera facing outside the car we can alert the driver about possible collisions with other objects (e.g., pedestrians, cyclists and other vehicles). This is equipped with a touchscreen display which displays a graphical user interface. Thus, our project has a multimedia side, too, the user being able to play media content and use the system through gestures. The driver is able to be careful on the road and operate the system at the same time. Thanks to a video camera facing inside the car, when the driver shows signs of fatigue or slumbereth, he will be alerted by a sound in the speakers. To reduce night accidents percentage, our system which is equipped with a nocturnal camera, is able to observe pedestrians or cyclists and alert the driver about their position. Thus, our system can see obstacles that driver is not able to see. In case of an accident, our system identifies how many people are in the car and sends a SMS with the location and the number of people to a preset phone number. The system being permanently connected to a phone, it can provide real-time feedback of the state of the car. Our project solves most of the problems encountered by drivers while driving.

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