Universidad de Alcalá

DRIVESAFE: APP THAT MONITORS AND SCORES YOUR DRIVING, GENERATING ALERTS WHEN IT IS NOT SAFE
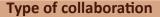
TECHNOLOGY OFFER

Code

TRANSP_UAH_10

Application areas

- Information and Communication Technologies
- Industrial Manufacture, Material and Transport technologies

Type of collaboration

- Interested in companies or institutions to conform a consortium for a project proposal to make it the system real
- Commercial agreement with technical assistance

Main researches

Prof. Luis Miguel Bergasa Pascual

CONTACT

OTRI Universidad de Alcalá
Escuela Politécnica Superior
Campus Científico-Tecnológico
28805, Alcalá de Henares
(Madrid)
(+34) 91 885 45 61
otriuah@uah.es

@otriuah

OTRI Universidad de Alcalá

ABSTRACT

DriveSafe evaluates the driver behavior and generates real-time alerts based on seven indicators: accelerations, braking, steering wheel turns, position within the lane, how the driver makes the lane changes, driver behavior respecting the allowed speed in the different sections of a road and the approach maneuvers to the previous vehicle. It classifies each trip among normal, drowsy and aggressive, using the sensors of the mobile phone itself (accelerometers, GPS, rear camera), as well as access to map services (OpenStreetMap) through Internet. It uses an augmented reality interface that allows to improve the driving experience through a feedback, provided by the App, of how it is being done.

The information obtained is always available for the driver to consult after the trip, including maps with location information and risk maneuvers. All this along with videos recorded automatically in the moments in which the driving has been more dangerous.

DriveSafe also generates a series of alerts during driving, typical of advanced driving assistance systems services available in premium vehicles: accelerations, brakes and sudden turns, irregular lane changes, zig-zag within the lane, overrun of the permitted speed and dangerous approach to the previous vehicle.

ADVANTAGES AND INNOVATIONS

DriveSafe is able to calculate its position within the lane and the distance/time it is from the ahead vehicles in real time using an exclusive algorithm based on the rear camera of your Smartphone and provides real-time alerts of ADAS services that would otherwise only be available in premium vehicles.

Drivesafe provides a user-friendly interface with access to all calculated real-time indicator ratios. The information obtained is always available for the driver to consult after the trip, including maps with location information, risk maneuvers made, and automatically recorded videos at times when driving has been more dangerous. This application works in any type of vehicle and is effective even in adverse weather conditions: rain, fog, moderate snow or at night.

DriveSafe is respectful of the privacy of its users. It only uses the rear camera (focused towards the road) to analyze the route, without taking pictures of the inside of the vehicle. The information generated is stored in the vehicle itself and it is only sent to a remote server for analysis if the user consents. The application can be available in the market store of the leading mobile companies on the market, allowing global visibility and easy access to it from anywhere in the world. This application improves, on the one hand, the safety of drivers (a service that otherwise would only be available in high-end or premium vehicles), and on the other hand, a history of driving behavior is generated.