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Servicio de Publicaciones de la Universidad de Oviedo
Campus de Humanidades. Edificio de Servicios. 33011 Oviedo (Asturias)
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servipub@uniovi.es

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Automatic Vehicle Collision Detection Device Adapted to Preserve Privacy Policy Standards Through a Web Communication System

Roca-González JL[118], Rojas-Llamas JM[119], Lopez-Belchí A[120]

Keywords: Smart cities; Connected vehicles; Interface device, Collision notification System;

1 Introduction

The incoming framework of smart cities opens new ways of user´s interactions within urban management features, like public lighting, intelligence transport systems (Amini, et al., 2018), parking (Aliedani & Loke, 2018), safety and security, waste management, internet of things and many others possibilities where connectivity of users is the main topic when developing new applications.

The implementation of connected vehicles technology is a clear example of this matter, because almost the 60% of vehicles on urban environment were manufactured 10 years ago (AAM, 2014), hence even if most car-manufacturers still assembling and improving devices that could allow collision detection automatically, online driving information assistance, remote safety surveillance and monitoring beside other kinds of services focused on users, the late acquisition of this technology is an obstacle to smart cities development in relationship with urban transport applications.

This communication summarizes the design process of a device and its managerial implications what finally led to a web data management conceptualization in order to achieve legal requirements in relationship with privacy policy of users, to help non connected vehicles to interact within this new connected framework.

[118]Jose Luis Roca-González (✉e-mail: jluis.roca@cud.upct.es)
Dpto. de Ingeniería y Técnicas Aplicadas. Centro Universitario de la Defensa en la Academia General del Aire. C/ Col. López Peña sn 30720 Santiago de la Ribera, Murcia (Spain).

[119]Juan Manuel Rojas Llamas (e-mail: jmrll2487@gmail.com)
OWL. C/ Verano, 38, 41710 Utrera, Sevilla (Spain).

[120]Alejandro López Belchí (e-mail: alejandro.lopez@cud.upct.es)
Dpto. de Ingeniería y Técnicas Aplicadas. Centro Universitario de la Defensa en la Academia General del Aire. C/ Col. López Peña sn 30720 Santiago de la Ribera, Murcia (Spain).

3 OWL Device

The collision detection system "OWL" as it was called by the developers is a collision notification device that has been programmed to record relevant information in relationship with technical collision parameters (Pawlak, 2016) and to communicate notifications to its owner thanks to a web support service that filter the information to accomplish with privacy protection requirements.

Such collision information has been reduced to the minimum parameters needed to help insurance companies to analyse each accident report through the web database service, which are the vehicle identification number, the user´s phone number and the Acceleration Severity Index (ASI)

4 Conclusion

In relationship with commercialisation purposes, OWL device is headed to three main sectors, which are Individual users, Renting Enterprises and Insurance Companies.

OWL as an entrepreneurship has been founded by a last course student of industrial engineering at the University Centre of Defence at Spanish air Force Academy, thanks to a full guided research and a business plan as part of the final degree report. As an advance, the preliminary results provide a possible profit input of 400.000 € after almost three years since the project could be programmed to start.

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