Personal Information

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Studies

Title of degree	Study Period	Location
Telecommunication Engineer	2003-present	Escuela Técnica Superior de Ingenieros de Telecomunicación

Diploma Thesis

Company	Title	Abstract
Daimler AG	**"Development of an in-vehicle data bus application for test automation and validation of vehicle personal telematic services: mbrace™ CANoe simulator"**	The diploma thesis accomplishes the development of automated bench testing validation of the *mbrace™* telematic service hardware devices, embedded in Mercedes-Benz cars before its market launch. The *mbrace™* telematic service was introduced by Mercedes-Benz to make cars a safe way to travel, but also additional services are offered to the customer, like downloading points of interest to the navigation system, remote (un)locking of doors or even vehicle diagnostics. This diploma thesis focussed on the development of a software application for manual and automatic testing of the mbrace™ vehicle telematic services. The engineer interacts now with this new application which merges all necessary mbrace CAN input/outputs in a friendly user way without additional software/hardware.

Professional Experience

Company/ University	Location	Period	Description
Daimler AG	Sindelfingen (Germany)	Dec 09 – Dec 10	-In-vehicle and laboratory testing/verification of the *mbrace™* telematic features. -Integration of new debug interface channel to communicate with the control unit per CAN bus, without additional adapters. -Complete validation of new services in a vehicle fleet of 44 different model lines (from years 2005 to 2013). -Enhancement mbrace™ test automation framework in 4CS: development of a new roof control unit buttons test module. -Development of an in-vehicle software tool for validation of new services to be launched next on the USA market.

Languages

| Language	Understanding	Speaking	Reading	Writing	Certificates
Spanish	Mother tongue	Mother tongue	Mother tongue	Mother tongue	
English	Fluent	Fluent	Fluent	Fluent	**B2 level in the Language Center of the University of Valladolid**
German	Basic	Basic	Basic	Basic	**A2 level in the IFA Institute of Stuttgart**

Captures of the new software tools programmed during my diploma thesis and used for manual and automatic testing:

- CANoe simulation: "*mbrace™ Simulator*"

CANoe is an intuitive tool which handles the different signals in the car and lets the user interact with them. It can be programmed with CAPL language and it can handle complex user-machine interfaces that are easy to develop thanks to the included WYSIWYG software. It is usually used for manual testing of the different Electronic Control Units (ECUs) when reproducing any possible use case. Also basic automated testing routines were programmed.

This tool obtains real time internal data from the ECU, shows it to the user and logs it in different formats. In the example below the GPS and telephony field strength is tracked and drawn on Google Earth®, so the user can easily check whether the signal is accurate or not.
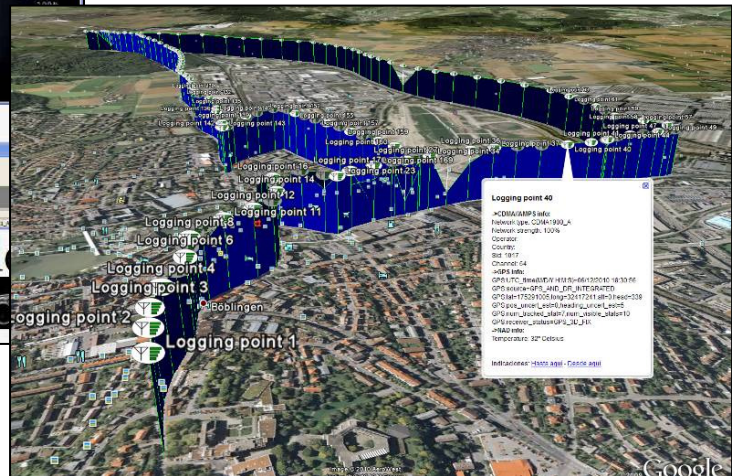
- 4CS and GUI programming :

4CS allows different levels of interaction with the ECUs in the car, therefore automatic test simulates any possible case or real situations, performs stress testing, change preconditions, etc. From the push of a button to the complete simulation of an accident can be simulated with this tool.

The GUI graphic interface makes 4CS routines easier to be used, even without programming knowledge this tool can be used to create your own test using simple test-steps already created with the 4CS language.