

# **DRIVERAssistant**<sup>™</sup>

ON BOARD TOOL GIVING ASSISTANCE TO DRIVERS FOR ENHANCEMENT OF DRIVING STYLE



### OVERVIEW

**DRIVERAssistant**<sup>TM</sup> is a powerful on board software tool of the **ADTS** (**ATTAIN IT DRIVERTutor Suite**<sup>TM</sup>) for driver behaviour monitoring and improvement, to achieve an optimal driving style in terms of safety, energy saving and comfort.

**DRIVERAssistant**<sup>TM</sup> is capable of providing the driver a real time feedback with regards to his / her driving quality.

The feedback is based on the detection and analysis of driving irregularities against the driver's normal style associated and automatically learned, by experience, along usual road paths.

**DRIVERAssistant**<sup>™</sup> can be easily installed on any road vehicle: cars, light duty vehicles, trucks, buses, coaches and motorcycles.

### HARDWARE DESCRIPTION

The **DRIVERAssistant**<sup>TM</sup> software can be developed on smartphones or on Attain IT's **CANROP** (CAN Read Only Platform), that is available in three different versions:

- Type I, based on HP IPaq 214 PDA (for all vehicles);
- Type II, based on Samsung Q1 Ultramobile PC (except for motorcycles, due to size);

• Type III, based on customized hardware (for all vehicles).



## ON BOARD ASSISTANCE TO THE DRIVER

**DRIVERAssistant**<sup>™</sup> performs an on board real time support to the driving activity, aiming in particular at:

- improving *safety*, by detecting anomalous situations associated to a negative evolution of driver behaviour (for example, by means of Attain IT's *ATD<sup>TM</sup> Anomalous Turn Detector* software), e.g. due to disease, drugs, alcohols or any other disturbing factor;
- optimizing the *fuel consumption* for a given road context and characteristic (e.g. slope, traffic, turns patterns), by means of one of Attain IT's *FCM<sup>TM</sup>* - *Fuel Consumption Monitoring* software for example;

 enhancing *comfort*, above all for transported or accompanying people, while maintaining a road driving speed and acceleration profile suitable to comply with scheduled stops (e.g. for buses), by means of Attain IT's *DRIX*<sup>™</sup> software.

Indeed the analysis of driver's recent commands history and the vehicle corresponding reactions, which can be associated to specific geographic positions, allows classifying and evaluating the driving style, thus detecting abnormal patterns associated to:

- nervous driving style;
- high fuel consumption driving style;
- dangerous driving style.

The main window shows to the driver its score and warns him/her in case an anomalous and possibly dangerous behaviour is detected.

An acoustic feedback can be emitted when repeated driving errors and irregularities are detected and various level of warning messages are displayed, in order to gradually suggest the driver a smoother driving or a stop to relax in the extreme case; The user interface, including sounds and messages can anyway be customized and setup according to the specific application to avoid driver distraction.

The product interface is essential and user friendly.

For example, the main window can be divided into three displays:

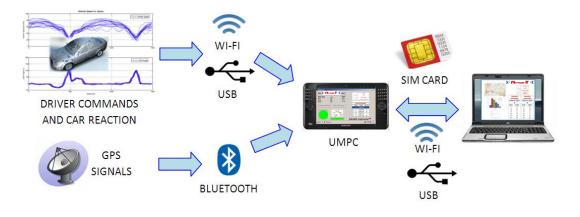
- 1. GPS data;
- 2. achieved score and / or irregularity detection in the last road path feature;
- 3. recent scores history table, which is normally hidden to avoid distraction.



#### **OFFLINE STATISTICS**

**DRIVERAssistant<sup>™</sup>** logs all the significant signals that can be easily downloaded to a PC, using either a Wi-Fi connection (e.g. at a truck or bus company terminal) or an FTP server connection via HSDPA / UMTS (SIM based).

The analysis tool provides useful statistics for analysing the personal driving style in the context of usual paths by the aid of usual web based maps (e.g. Google). For service transports this information can be used to evaluate and prize positive driving patterns as a means to achieve company goals in terms of public appreciation, environmental impact and economy.



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