DRIVERInstructor^{TM}

AUTOMATIC EVALUATION OF THE DRIVER BEHAVIOUR

OVERVIEW

DRIVERInstructor^{TM} is a powerful software tool allowing the automatic evaluation of the driver behaviour with respect to a safe, comfortable and fuel saving pattern.

The tool has been developed by Attain IT for driving teaching and improving activities, such as driving schools, safe driving, racing driving courses and similar.

DRIVERInstructor^{TM} is based on Attain IT's automotive diagnostic technology **CANpanion^{TM}**, that allows acquisition, real time visualization and logging of CAN bus and GPS signals.

Besides signals logging, **DRIVERInstructor^{TM}** is capable of providing real time feedback to the driver and to the driving trainer as regards the quality of the trainee driving style.

The feedback is based on absolute criteria and on the analysis of the deviation from a "master" driving session, recorded e.g. by the instructor on usual driving paths.

At the end of the driving session the tool provides a detailed analysis of the driving trainee performance.

HARDWARE DESCRIPTION

The **DRIVERInstructor^{TM}** software operates with Attain IT's CAN ROP (Read Only Platform, see respective flyer) type II, that is composed of:

- 1 Samsung Q1 Ultra unit;
- 1 Kvaser Leaf SemiPro unit (CAN interface);
- 1 GPS receiver unit;
- 1 on board power supply unit for Samsung Q1 Ultra (12-24 V.);
- 1 on board power supply unit for the GPS receiver (12-24 V.);
- 1 external GPS antenna unit (optional).

REFERENCE SESSION RECORDING

DRIVERInstructor^{TM} is capable of providing the driver, and the driving trainer, a real time index of the driver behaviour based on the comparison between reference optimal driving sessions, recorded by the instructor, and the current driving session by the trainee.

To provide the reference data, the driving instructor must, previously, first of all record one or several correct driving sessions on the paths that the trainees will cover during their course.

More paths will be stored in a database of road points and patterns that is stored in the CAN ROP and recalled by the trainer on the training or examination session start.

REAL TIME OPERATING MODE
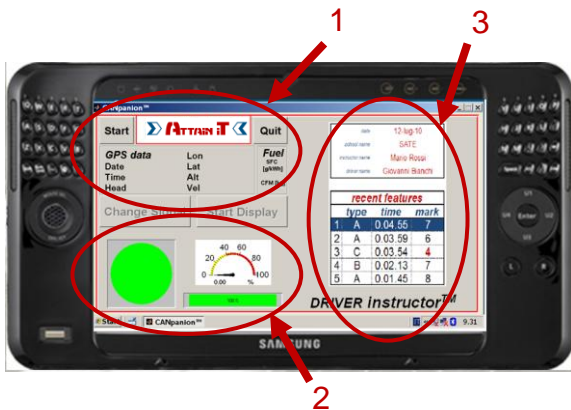
Operating in real-time mode, an acoustic feedback is provided to indicate driving errors and irregularities; however, the tool can operate also without sounds and interact only with the instructor, to avoid driver distraction

The product interface is essential and user friendly.

The main window is divided into three parts:

1. GPS data visualization;
2. last feature score and anomaly detection;
3. recent features score history.
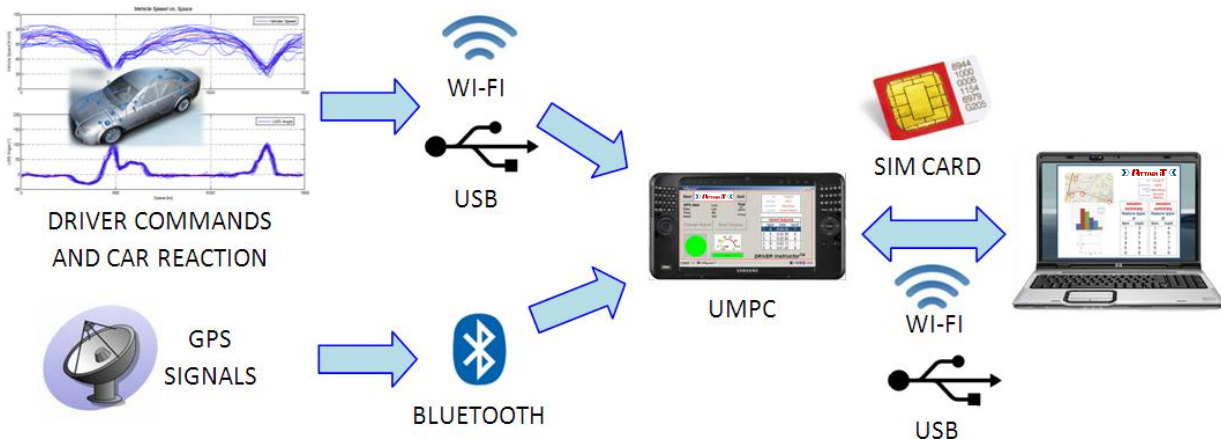
DATA ANALYSIS AND STATISTICS

DRIVERInstructor^{TM} gives also the possibility to analyse the recorded signals after a driving teaching session. This feature allows extracting, highlighting and discussing errors after the driver session end.

Moreover, the **DRIVERInstructor**^{TM} data analysis provides a detailed report of the driving session, containing important statistics, such as the number of errors and their classification (e.g. irregularity on brake use, anomalous trajectory corrections while approaching turns etc.).

These debriefing tools and statistics can be stored and used for trainee progress tracking and for indication of the most important and recurring errors. Thanks to the GPS referentiation of all style patterns data reports, it is possible to draw on maps the routes followed during the driving sessions, marking the scores achieved along it.