

iDriveSafe

iDriveSafe is an application designed to receive driving quality assessment. The driving quality influences both the condition of a transported cargo and to a certain degree a vehicle state.

Interface

There are several elements in the application interface: top panel, (takes central place), work list (to the left of the statistics table), switching between tabs (bottom).

The screenshot displays the iDriveSafe application interface. At the top, there is a header with the iDriveSafe logo and a help icon. Below the header is a top panel with tabs for 'Yesterday', 'Today', 'Week', 'Month', and 'Custom'. A date selector shows '01.11.2015' and a mileage filter is set to '2 km'. A red arrow points to the 'Top panel' label. On the left side, there is a 'Work list' containing various vehicle models such as _Vento, Chopper, Ducati, Harley, Honda, Hunter, Jocker, Mercedes, Mitsubishi adsa, Monster, Mustang, Rocket, Space ship, test2, and Thunder. The main area is a 'Statistics table' with columns for Unit, Rate, Duration, Mileage, km, and Settings. The table contains four rows of data. A red arrow points to the 'Statistics table' label. At the bottom, there is a tab bar with the date '01.11.2015' and four active tabs: 'unit_amst...', 'Unit2', 'Vliegende...', and 'unit_amster'. A red arrow points to the 'Switching between tabs' label.

Unit	Rate	Duration	Mileage, km	Settings
unit_amster2	★★★★★ 5,0	23:59:00	876.6	
unit_amster	★★★★★ 5,0	19:51:57	565.7	
Vliegende Hollander	★★★★★ 5,0	19:55:00	567.2	
Unit2	★★★★★ 5,0	23:59:00	220.6	

Request Formation

Time interval for which you would like to receive an assessment should be indicated in the top panel. There are two variants available: established ('Yesterday', 'Today', 'Week', 'Month') and adjustable interval ('Custom') where any dates could be set. Clicking on the 'Previous'/'Next' arrows the established interval will be changed back or forth for a day, week, or month, correspondingly.

Also, the minimum trip mileage can be set as a filter (in the top panel) in order to exclude minor trips.

Double click on the units in the work list in order to choose them. They are added to the statistics table where the assessment will be automatically made. The following data will be shown in the table: driving quality assessment, trip duration, mileage, and the settings (vehicle type, assessment strictness).

Assessment Criteria

Driving quality is assessed on the basis of three main parameters:

- Acceleration rate,
- Deceleration rate,
- Cornering accuracy.

Depending on the vehicle type and assessment strictness different coefficients of driving evaluation are applied. The coefficients have been estimated empirically: trips of different vehicles for the certain period of time were analyzed, and as a result the recommended values for acceleration, deceleration and cornering were received.

As far as the coefficient applied differs depending on the vehicle and assessment type, the corresponding settings should be set for every unit individually. There are four types of vehicles ('Car', 'Van', 'Bus', 'Truck') and three types of assessment strictness ('Loyal', 'Normal', 'Strict')

Trips Analysis

After the evaluation is made and the driving quality assessment received there is a possibility to go into details of the assessment by clicking on the unit line in the statistics table. After clicking it you can see the following interface: the trips are at the top of the screen, the map is a bit below, the violations table is to the left of the map.

The trips are displayed as columns. The width of the column is a ratio of a time spent in trip to the time of all the trips of the chosen interval. The height of the column is the assessment mark.

Click on the trip column in order its track to be displayed on the map. The color of a trip track depends on the unit speed (in the bottom left corner of the map there is a scale which indicates a speed and its color). Violations on the track are shown with markers. The list of violations made in a trip is shown on the left. Click on the marker of the violation on the map and the corresponding line from the list will be highlighted.

