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EcoTrainer

Analyze your driving style

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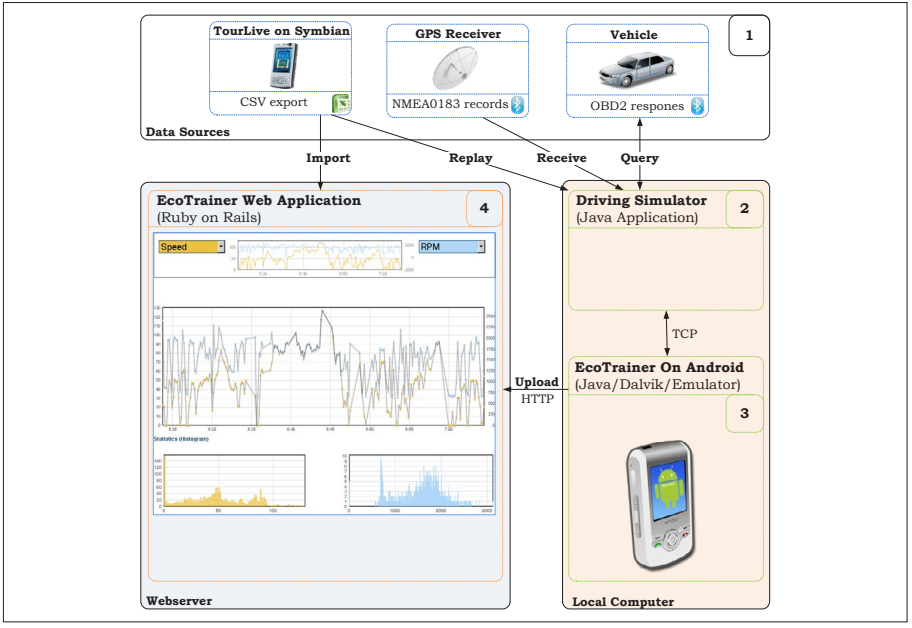
Pollution is a global problem and fuel costs are increasing continuously. It is in everybody´s interest to lower fuel consumption while driving. cnlab has built an EcoTrainer system, a Symbian application running on Nokia mobile phones. EcoTrainer captures driving data to evaluate the eco friendliness of the driver's driving style (1). In November 2007 Google announced the Android platform, a software stack for mobile devices including an operating system and middleware. For the time being there is no Android hardware available. The key objectives of this thesis were to bring the EcoTrainer system to the Android platform and to develop an appealing, web-based evaluation application to characterize the driver's driving style.

The Android EcoTrainer was developed within an emulator. The driving simulator provides Bluetooth support and data import (2). Much like EcoTrainer on Symbian platforms, it allows fetching of location (GPS) and driving data (speed, RPM, fuel consumption) via GPS-devices and via an on-board diagnostics (OBD2) interface respectively (3).



EcoTrainer System Overview

This driving data can be stored on the Android system or uploaded to the new EcoTrainer web application (4). The web application is able to determine the correct gear with the RPM/speed ratio in a self-learning manner. Furthermore it enables comparison and analysis of the data gathered. The data can be displayed as a time series and compressed histogram chart. The web application is designed to receive online data from existing EcoTrainer clients. Already captured data can be imported as CSV files.

By gathering driving data an advice system with hints for better driving styles will be developed. The data will also be used by the web application to provide better accuracy and analysis support. The new EcoTrainer should run on Android hardware as soon as such hardware is available and it could be extended with the advice system for immediate feedback on how to drive in a more eco-friendly way.