Project milestone #1

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Title:

Driving behavior monitor

Description:

The goal of this project is to design and implement an application that monitors users' driving behaviors in real time, using on-device sensors such as GPS, gyroscope, and accelerometer. GPS data is used to calculate the driving speed and road conditions (highway or local) if possible. Gyroscope and accelerometer combined are used to detect moving trajectories such as making turns, changing lanes, etc. The application also evaluates the user's driving behavior of a trip, and gives a score ranging from 0 to 100. The score is calculated using current trip's data as well as this user's historical data so that the evaluation accuracy will be improved with time.

Deliverables:

Plan A: A runnable Android application that collects and analyzes a time-series driving data that is recorded from sensors such as GPS, gyroscope, accelerometer of a cellphone, and gives evaluation on how well the driver drives in a certain trip. The application will be run under the Developer's SIS testbed to select and fine-tune its algorithm.

Plan B: A runnable Android application that only collects a time-series driving data that is recorded from sensors such as GPS, gyroscope, accelerometer of a cellphone, and gives evaluation on how well the driver drives in a certain trip. The application will be run under the Developer's SIS testbed to select and fine-tune its algorithm.
(The app in Plan B only collects sensor data while the app in Plan A also analyzes the data)