MONASH University

Department of Electrical and Computer Systems Engineering

TRC4000/1 Final Year Project, Semester 2, 2012

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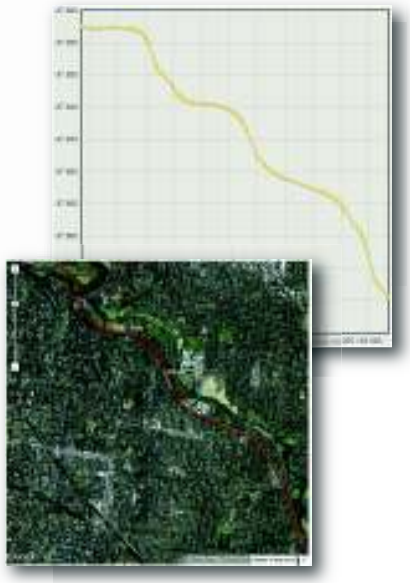
Realtime Route Learning and Vehicle Tracking Using Web-technologies on a Mobile Device

Project Aim

By exploring data-mining, mathematical modelling and machine learning algorithms, the V-Tracker project aims to achieve **realtime route learning and vehicle tracking using web-technologies on a mobile device**. Melbourne's public transport network serves as a testing ground for the project since it is a well-known and clearly constrained system.



Sensing on mobile devices

The application developed in this project **uses the motion and localisation sensors** available on typical smartphones and mobile devices.

Web technologies

The technologies used in this project run primarily in the device's web-browser and are platform agnostic, running on both iOS and Android. The application relies on front-end web-technologies to **access the device's sensors, collect spatial and temporal data and process the data within milliseconds of it being collected**.

Route learning and tracking

By applying mathematical modelling algorithms, **the application creates and visualises a model of the route in realtime**. This enables the application to **make intelligent decisions**, such as those required **for vehicle tracking**.

As one of the first projects in this space, this application is setting the foundations for future experiments that will investigate the use of web-technologies in areas of digital perception and robotics.

"We are pushing device web-browser engines to the edge"

… and it's all open source!

Visit the project wiki and explore the code online at:
http://github.com/hadimichael/V-Tracker