

Location Based Platform for Public Transport Monitoring System

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Abstract

Nowadays transport problem is one of the most important problem for big cities. The journey from one place to another is quite difficult in most of big and crowded cities. The shortest paths are not fastest in general. Moreover, personal car don't promised optimal time for traveling. The best route usually is a combination of different types of transport. It is worth to have special tool to see the real picture of public transport disposition. The platform for such kind of tools is a goal of project. In the report we will consider platform architecture and show the demo.

To implement public transport observation system we need to receive geoposition of all vehicles like buses, trams, and troll buses. It's relatively easy to implement because each driver can have just a mobile with (or even without) GPS receiver and Internet connection. The system which we are going to present contains three parts: tracker, server and observer. The former is a simple application which periodically get geographical coordinates and send them to the server. And second part is a server which is responsible for gathering and keeping tracks. Last part of system is a client program which is being used for observing current situation on the map.

It is worth to say that described use-case is only one from number of using of such approach. Project architecture is quite open and allows to implement different services like logistic monitoring, personal movements, kids moving and so on. The only one requirement is the ability to run tracker software on the mobile phone.

The platform itself is going to be ran on linux server. The platform provides API based on JSON text-protocol via HTTP as a transport. So, client applications can be developed for wide spectrum of platforms, such as Maemo/MeeGo, Java, Android and other. Web interface to the platform is being developed as well. Today we have Qt-based client, because there is a big number of In-Vehicle Infotainment systems are based on MeeGo and therefore have been written with Qt.

Index Terms: LBS, GPS, transport monitoring.