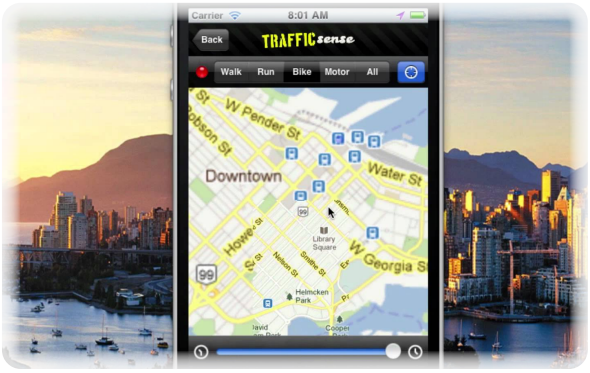
CrowdSenSim: Mobile Crowd Sensing Simulator

Context



Smartphones have become essential for our day life. They are normally equipped with a rich set of sensors, including GPS, microphone, camera, accellerometer and gyroscope among the others. As a consequence, everyone can easy collect and share sensed information. Mobile crowd sensing emerged recently as a promising large-scale sensing paradigm where data collection is typically performed by smartphones. Mobile crowd sensing is projected to become one of the most important technologies contributing to healthcare, monitoring, logistic and organization in future smart cities.

CrowdSenSim is the first simulator designed for research use in mobile crowd sensing. It allows simulations of large-scale crowd sensing activities in urban scenarios and can be used to develop novel solutions in data collection, task assignment, monitoring and resource management.

Objectives

Objectives of the project consists in enhancing CrowdSenSim communication module to support both LTE and WiFi connectivity and in implementing a graphical interface for data collection results.

Having LTE and WiFi connectivity, it will become possible to estimate the cost of the communication in terms of bandwidth and energy spent by the users mobile devices. In turn, this will allow to devise novel data uploading schemes able to optimize the costs of information delivery.

Description

- Contribute to the scientific research in the area of mobile crowd sensing
- Extend CrowdSenSim communication module capabilities and implement graphical interface
- Participate in writing of scientific articles that will be presented in international conferences and published in major scientific journals

Requirements

- Strong programming skills (C++, Java, Javascript)
- Good command of English language is essential
- Ability to work independently as well as in a team

Contact

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