Air quality in an app

March 11 2013, by Sarah Perrin

Thanks to sensors installed on trams that send data live to mobile phones, people can check air pollution levels around the city with just one click and in real time. This new app developed by EPFL researchers was recently tested in Zurich.

What if you could choose your commute based on the air quality en route? This is what a new smartphone app, "Mobile Observatory," developed by EPFL's Distributed Systems Laboratory, is proposing. Currently still in the prototype stage, the invention could be available to the public in the near future.

Recently tested in Zurich with a group of volunteers, the application allows users to consult, with a single click and in real time, the levels of certain pollutants in specific areas of the city. The information comes from a network of sensors installed on the roofs of several trams, in the context of a project called OpenSense that has been conducted over the past three years in Lausanne and Zurich by four EPFL and ETH Zurich laboratories.

Public transportation is the ideal platform from which to collect this kind of data: it provides mobile, reliable, predictable, and complete coverage of a given area. In addition the system gives the application another advantage by providing data that are more precise and targeted than those based on fixed stations. Its operation in real-time also makes it possible to give instantaneous warnings when pollution levels change unexpectedly.

The information provided is particularly useful to those who suffer from respiratory disease, or on days when cloud cover causes the concentration of fine particulates to increase. "A person with asthma could check at what time the pollution will be at its lowest level in his or her neighborhood, and plan to run errands at that time, or a jogger could choose the place and time where ozone levels are lowest to go running," suggests PhD student Julien Eberle, one of the application's designers.

Open the windows!

At the moment, ten sensors are roaming around Zurich. These devices are measuring temperature, humidity, and the presence and quantity of fine particulates and certain pollutants, including ozone, carbon dioxide, and volatile organic compounds.

The user can personalize the app by selecting specific "favorite" streets and bus stops. By adding a personal sensor to the smartphone, the user can obtain more information on indoor air quality. The system can even send warnings, telling the user when it's time to open a window to air out a room.

Provided by Ecole Polytechnique Federale de Lausanne

Citation: Air quality in an app (2013, March 11) retrieved 24 April 2024 from https://phys.org/news/2013-03-air-quality-app.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.