January 27, 2009

All Tech Considered

Who's Calling? It's Your Traffic Report

by David Gorn

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Jeff Chiu

A mobile phone displays Mobile Millennium in use in Berkeley, Calif. The software enables commuters to receive live traffic reports on their cell phones. AP

In Depth

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All Things Considered, January 26, 2009 · In the ongoing struggle to figure out where traffic is clogged before driving right into it, San Francisco Bay commuters have a new high-tech weapon on their side.

The newest and coolest traffic prediction system is based on a simple assumption: that every car has a driver, and every driver has a cell phone.

One of those drivers, and cell phone users, is Lisa Alvarez-Cohen, a professor at the University of California, Berkeley. As she gets into her Toyota Prius, she sets her cell phone on her dashboard and flips it on.

Alvarez-Cohen is an early adopter of a new system called the Mobile Millennium and says that, for her, the daily commute around town is less important than the weekends — when, she says, the traffic alert system becomes invaluable.

"My two sons are on traveling soccer teams. So we are often taking long trips out into all parts of California that we haven't been to before," she says.

That's when Alvarez-Cohen needs the service.

Using Cell Phones To Gather Traffic Information

Alvarez-Cohen's cell phone tells her when traffic is bottled up — right when it's starting to happen. The new system uses cell phones to both distribute and gather traffic information.

"Because of the high penetration rate of people with phones on the road, we hope to be able to gather information at a much, much larger scale than ever before," says UC-Berkeley engineering professor Alex Bayen, who heads the project.

Bayen is using everyone's cell phone as a data point. The software works by determining the location and speed of a person's cell as it passes specific GPS coordinates. The information from those thousands of data points on the roads is sent back out to the phones in the form of a traffic report. So changes in traffic are updated constantly, and you can see it online, on your small GPS screen, or you can hear a computerized voice announcing traffic conditions.

There is money to be made here. This new gizmo might eventually persuade consumers to pony up for a phone with a more costly global-positioning feature, the kind that comes with an unlimited data plan. But if you already have all of that, Bayen says this technology can be downloaded free by anyone with a GPS-equipped phone that will support the program.

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Endless Possibilities

At the recent unveiling of the Mobile Millennium project, dozens of people crammed into one of the halls at UC-Berkeley to try out the new devices.

The dean of engineering, Shankar Sastry, stood back and observed the technology scrum like a proud papa. With 3 billion cell phones worldwide, he says, the applications of cell phone technology are endless.

"I think you can imagine a world where everything — you know, entertainment, news — so whatever you think of that you would be doing on a computer today, would be on a cell phone," Sastry says.

Sastry sees a future where you don't even have a desktop computer; you just walk into your office and put your memory-packed cell phone into a docking station and use it as your computer.

And one of the first applications of this unlimited potential is monitoring traffic. Project director Bayen says he got good results in a trial period with just 100 users. He estimates that to cover every section of every highway, and even most surface streets, he will need about 10,000 users in the Bay Area. If all goes well, he says, he should accumulate that many users by early spring, and he expects this traffic-warning system to be available nationwide within a year.

David Gorn reports for member station KQED.

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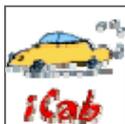
John Burridge (John_Burridge) wrote:
I can't help but think how this technology might be used at political rallies. If one were strolling by one's town square, would one be texted by various parties? And you thought the last primaries were long?

On the Orwellian side -- this technology would make it easier to see correlations between populations of say, church goers, concert audiences, and political rally attendees. How can we as a free society use GPS-enabled cell phones in a way that does not have a chilling effect on people's ability to protest injustice?
mardi 27 janvier 2009 02:14:40

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William Marston (Bill_Marston_Philly) wrote:
I too love the capabilities inherent in geodata (i.e. spatially based meta-data) that now, so FAST, has migrated into cell phones. Ergo "live" datasets automatically generated... and at virtually no cost to the map-maker. wow.

Understand that I come into this from the perspective of an architect graduated in 1970, but who "got it" with 3D CAD software for drawing buildings way before most anyone else I knew.

So about 10 years ago I "discovered" the field of GIS (geographic

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information systems) which now has made googlemap so smart... and I'd go around at parties, throw my arm over the shoulder of a young college grad, and intone "GIS!" in lieu of "Plastics!" ala the movie "the Graduate".

How important is the privacy matter? Just as important as it is to any given user or anything else, such as a window blind, or a light switch in a bedroom. It is all just technology. We do with it as we will = alas and aha! depending on our choices...
lundi 26 janvier 2009 21:37:45

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NPR STAFF:
Omar Gallaga (OmarG) wrote:
Taylor -- don't think there's an Android version yet for Millennium, but Sugartrip might work for you -- seems to work similarly.
lundi 26 janvier 2009 21:11:21

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NPR STAFF:
Omar Gallaga (OmarG) wrote:
W Fay -- I don't have a lot of experience with shady pimps, but the fact is that these technologies are coming, they will be deployed and it's definitely going to be a challenge deciding what we will or won't find acceptable.

Some will embrace having the ability to keep track of friends and family in a less cumbersome way. Others will see it as an invasion of privacy and opt out.

Others might be duct-taped by pimps, as your scenario suggests. It's a big world with lots of possibilities.
lundi 26 janvier 2009 21:02:09

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Taylor Braun-Jones (NocNokNeo) wrote:
Is there an application for Android cell phones (e.g. the T-Mobile G1) that uses this system?
lundi 26 janvier 2009 19:58:26

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