

mobile-digital

World Mobile & Digital **product** news and **information**

Saturday, February 9, 2008

Nokia (Palo Alto), UC Berkeley Capture Real-Time Traffic Information Using GPS Enabled Mobile Devices

Palo Alto and Berkeley, USA - Nokia and UC Berkeley researchers tested technology that could soon transform the way drivers navigate through congested highways and obtain information about road conditions. One hundred cars equipped with the GPS-enabled Nokia N95, and driven by students from the University of California, traveled a 10-mile stretch of highway near San Francisco to show how real-time traffic information can be collected from the GPS feed, while preserving the privacy of the devices' owners.

The experiment was carried out to test the traffic data collection and aggregation system, while studying the trade-offs between data accuracy, personal privacy, and data collection costs. The software aggregating the GPS feeds immediately disassociates that data from an individual device and combines it with the general stream of traffic data. To protect privacy, all data is anonymous and aggregated, and protected by banking-grade encryption.

During the experiment, special software on the mobile devices periodically sent anonymous speed and location readings from the integrated GPS to servers. The feeds were then combined to create a real-time picture of traffic speeds and projected travel times.

"Mobile device users control the service. If an individual does not want their device to transmit position data they turn off the feed from their GPS," stated Quinn Jacobson, Research Leader at Nokia Research Center, Palo Alto.

"Nokia is very excited at the potential for this system to revolutionize travel planning, carrying on from the Nokia Maps navigation service available today on certain Nokia devices," continued Jacobson. "Integration of traffic information with functions such as calendar and online timetables may one day mean the mobile device can act as personal travel planner."

"There are mobile device-based systems out there that can collect data in a variety of ways, such as measuring signal strength from towers and triangulating position, but to our knowledge, this is the first demonstration of this scale using GPS-enabled mobile devices to provide traffic related data such as travel times, and with a deliberate focus on critical deployment factors like bandwidth costs and personal privacy issues," said Director Thomas West, director, UC Berkeley's California Center for Innovative Transportation.

The researchers believe that fewer than 5% of drivers need to contribute location data for the system to be effective on any particular highway.

For state transportation agencies such as The California Department of Transport (Caltrans), tapping into the vast network of mobile phones on the road could one day remove the need to invest in expensive infrastructure to obtain traffic information as well as greatly expanding the coverage of such services.

In the USA alone congestion causes 4.2 billion hours extra travel every year and the purchase of extra 2.9 billion gallons of fuel for a congestion cost of USD 78 billion(1). With the number of vehicles on the road increasing rapidly around the world a cost-effective method of travel planning could help drivers make smarter decisions about which routes to take, the researchers say.

The project brings together research teams from the Nokia Research Center (NRC) in Palo Alto and from UC Berkeley, interacting through UC Berkeley's California Center for Innovative Transportation (CCIT). These teams are developing the algorithms, software and architecture of this GPS-based traffic monitoring system.

The project is supported by a USD 186,000 grant from Caltrans. Additional support comes from the National Science Foundation, Nokia, Tekes, Rutgers University's WINLAB, the University of California Transportation Center and the Volvo Center of Excellence for Future Urban Transport at UC Berkeley's Institute of Transportation Studies.

(1) 2007 Urban Mobility Report, September 2007, Texas Transportation Institute, David Schrank & Tim Lomax

About Nokia Research Center

Nokia Research Center (NRC) looks beyond Nokia's existing business and product development to challenge current strategies and to stimulate renewal in the company's direction. Working closely with all Nokia business units, NRC's research explores new frontiers in digital services, physical-digital connections, human interaction, data and content technologies, device architecture, and access and connectivity. NRC promotes open innovation by working on research projects in collaboration with universities and research institutes around the world.

More info : www.research.nokia.com.

About Nokia

Nokia is the world leader in mobility, driving the transformation and growth of the converging Internet and communications industries. Nokia makes a wide range of mobile devices and provides people with experiences in music, navigation, video, television, imaging, games and business. Nokia also provides equipment, solutions and services for communications networks.

More info : www.nokia.com

Posted by mobi-dig at [10:59 PM](#)

Labels: [News](#)



Web mobidig.blogspot.c.o

[Samsung](#) (33)

[News](#) (24)

[SonyEricsson](#) (13)

[Nokia](#) (7)

[BlackBerry](#) (5)

[Motorola](#) (5)

[Camera](#) (4)

[U-series](#) (4)

[Olympus](#) (3)

[Canon](#) (2)

[LG](#) (2)

[X-series](#) (2)

[Apple](#) (1)

[HP](#) (1)

[L-series](#) (1)

[Sanyo](#) (1)

[Z-series](#) (1)



Gathering data...
Please allow up to
3 hours for this
zone to activate.
Contact **customer
service** with any
questions.

Gathering data...

Please allow up to 3 hours for this zone to activate. Contact [customer service](#) with any questions.

[Your Ad Here](#)

[Map of Traffic](#)

Find Detailed Maps of Traffic Road Maps, Traffic Reports, & More
mytrafficmaps.net

[Traffic Accident](#)

Search multiple engines for traffic accident
www.webcrawler.com

[Ford SYNC Official Site](#)

SYNC in the Car Never Out of Touch Get Real-Time Traffic, Info, More.
Ford.com/SYNC

[Traffic Cones-Cheap](#)

Low Prices on 6"-42" Traffic Cones Order Now - Call Now 1-800-624 - 7807
www.johnmwarren.com

[Traffic Signs Image](#)

Find Clipart With Less Digging. A Decision Engine Makes Search Easy!
www.Bing.com

[GPS Navigation System](#)

Get GPS Now For Free!
Don't Miss Out - Offer
Ends Soon.
MyGPSOffer.com/Garmin

[GPS Tracking from \\$199](#)

Live Tracking from the Internet. No monthly fees. Same day shipping.
www.RMTTracking.com

[iSight teen GPS Tracker](#)

Continuous reporting of vehicle speed, location, and much more
getisight.com

[2008 GPS Reviews](#)

Top-Rated GPS Reviews, Buying Guide Unbiased Ratings & Recommendations
GPS.Rated4Stars.com

[Free mobile web statistic](#)

Track mobile marketing campaigns. Visitors statistics. Get it free!
www.bango.com

Adbrite Ads

Gathering data...

Please allow up to 3 hours for this zone to activate. Contact [customer service](#) with any questions.

[Make MSN® Your Homepage](#) Enjoy Access to Entertainment, Breaking News, Videos & More! www.myhomemsn.com

[Daily News & Alerts](#) Personalize Your My Daily Page w/ Weather, News, Entertainment & More MyDaily.com

[Street Smart Rental](#) Innovating traffic control through the only complete rental solution. streetSMARTrental.com

Ads by Google

[EA Systems, Inc.](#)

EA Systems provides comprehensive Engineering & Design-Build services
www.ea-systems.com

[Foundation Repairs](#)

Structural Repair SF Bay Area Seismic Work - 40 Yrs of Experience
www.WardConstruction.com

[Huff Engineering](#)

Structural and Civil Engineering Serving California and Florida
www.huffengineering.com

Ads by Google

Something Happen

Loading...