Nokia trial turns N95s into traffic sensing tools

by Darren Murph, posted Feb 9th 2008 at 2:20AM

Sure, we’ve seen cellphones intermingle with traffic data before, but Nokia’s looking to up the ante in a big way by utilizing a large network of GPS-enabled handsets to actually predict traffic patterns and help you avoid congestion before you even leave for that afternoon appointment. In a recent trial involving 100 volunteer drivers (and an equal amount of N95s), the handset maker teamed up with UC Berkeley to test the effectiveness of using a device most people already own (read: cellphones) to beam out traffic data rather than installing permanent sensors in roadways. Eventually, Nokia hopes to expand the experiment to over 1,000 folks, and just in case you privacy junkies can already feel your heart racing, you can rest assured that all “personal identifying information” was stripped before being sent back for analysis.

Read: Nokia turns people into traffic sensors
Read: Video: Nokia test drives traffic monitoring system

Filed under: Cellphones, GPS, Transportation
Tags: n95, nokia, sensor, sensors, traffic, traffic sensor, TrafficSensor, trail

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William @ Feb 9th 2008 2:23AM
Neutral

Only problem seems to be data costs? And having a S60 phone in the US.

MickeyMoo @ Feb 9th 2008 3:04AM
Neutral

Saw this on the news tonight - seems a lot like the tech employed by the Dash GPS - potential patent infringement?

Andrew Kung @ Feb 9th 2008 4:56AM
Neutral

I WAS A PART OF THIS! Definitely was a long and tedious experience but well worth the effort!

xbit @ Feb 9th 2008 7:06AM
Neutral

Is there anything the N95 can't do?

Steffen Jobbs @ Feb 9th 2008 9:18AM
Neutral

Get great battery life and fit comfortably in your pocket would be the only drawbacks.
I'm not knocking this phone one bit since it's one of the finest full-featured handsets money can buy. I wish I had a need for one.

Eric @ Feb 9th 2008 9:54AM
Neutral

Receive text and mms messages, at least with AT&T!

hamad @ Feb 9th 2008 12:45PM
Neutral

Eric

mayb in the US it doesn't do that but it do everything in Europe, MENA, ... ...

the only problem with it is the battery

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Remote media sharing tool Simplify Media updated

Remote media sharing tool Simplify Media updated

Bid on this Andy Warhol Apple logo serigraph

Remote media sharing tool Simplify Media updated
Neutral Reply

ron1n @ Feb 9th 2008 9:11AM
heh im on my n95 8gb now XD That sounds better than my garmin mobile xt for sure!

Neutral Reply

L.Rawlins @ Feb 9th 2008 9:47AM
TomToms and indeed any sat-nav device could do this, instead of piggy-backing your mobiles dataplan and rinsing your bank account.

It stands to reason that if my TomTom knows the stretch of road I'm on, the speed of that road, and the speed that I and any other TomTom user on this road are actually travelling at, that it could judge for itself whether or not traffic is present, and send a signal to other TomTom users devices adjusting their route to avoid the particular stretch of road that I'm apparently stuck in.

Social sat-nav, if you will; and the market saturation necessary to achieve this is already growing daily.

Neutral Reply

Eric @ Feb 9th 2008 9:55AM
Does the TomTom have some sort of WiFi built in or something?

Neutral Reply

L.Rawlins @ Feb 9th 2008 10:42AM
No. But to achieve what I'm suggesting it wouldn't need to. The key is in the fact that the satellites know how fast I am going between two defined points, and the speed of the road itself, hence that GPS speedometer that you can display. Using this information that is already monitored, traffic sensing could be instated for gratis in theory.

If the satellite can see that I'm doing a 5 MPH average on a road where I should be capable of doing a 70 MPH average, and so are a multitude of other devices around me on this same road, it should be able to do something with that observation for other TomTom users destined to travel along this same stretch of tarmac.

Does that make it any clearer?

Neutral Reply

tkm @ Feb 9th 2008 2:13PM
Actually, no. The satellites never "see" anything; GPS is a passive system, where data goes exclusively from the satellites to Earth, but not the other way. That's why you need something like a cell phone network. (TomTom's traffic service actually requires a cell phone to work.)

Neutral Reply

L.Rawlins @ Feb 9th 2008 3:01PM
What I propose doesn't require information to travel the other way. What it requires is a satellites ability to analyse the transmissions it makes against the initial guessimate of my journey time and the road speeds it is actively monitoring at the point of origin (the satellite).

All this information gets sent to my device, and could be averaged against the very same data being sent to other devices in the area to confirm the extremity (and on motorways the precise junction) of a problem, to then push a suitable re-route.

I can't possibly make it any simpler to explain short of attempting to doodle in ASCII.
Maybe the reason you’re having trouble explaining it is because you’re not sure what you’re talking about. The satellite doesn’t do any estimating, it doesn’t know anything.

Let me give you a quick primer on GPS: all a GPS satellite is is an atomic clock in geostationary orbit. All it does is broadcast the exact time according to its clock over and over and over. (Actually it sends some other stuff about satellite positions as well, but that’s the essence of it.) It does not know what’s being done with that. It does not know who’s receiving it. It does not know that humans are using the ephememer data to triangulate their positions on Earth.

The way GPS works is that your GPS device compares the time code it receives from the satellite against its own internal clock and uses the difference between the two, along with a handy constant you may have heard of, to determine how far away the satellite is. Put three satellites together and you have a two-dimensional coordinate. Take change in position over time and you have speed. You may have learned this in high school physics.

Your GPS device is what tells you how fast you’re going and where you are. GPS satellites have no idea of positions or speeds. They just clocks.

ScOObyDoo @ Feb 9th 2008 9:51AM
Neutral
Sounds like a real waste of time. The (IMHO better) solution being rolled out in Holland gathers the data directly from the base station controller:

http://www.logicacmg.com
/logicacmg+provides+reliable+and+comprehensive+traffic+information+based+on+gsm+n
/400002401

That project is already 5 years old, so I have no idea why UC Berkeley think they are onto something.

By gathering information directly off the network, it’s possible to track every single mobile phone on a specific route, and not just a couple of users that happen to be participating in the service.

Eric @ Feb 9th 2008 9:57AM
Neutral
CDOT (Colorado) is using the transponders used on the EZ-pass system to track traffic on I70 and update message boards now, no GPS needed.

Clinton @ Feb 9th 2008 10:11AM
Neutral
hmmm talk about distractions... this guy seems totally oblivious to the fact that he’s behind the wheel of a vehicle.... 10 & 2 anyone? :P

pushplay @ Feb 9th 2008 11:19AM
Neutral
that seems to make complete sense, since ya know, people are causing the traffic why not use them as the sensors. Think about how this might work with other hand’s even w/o gps chips, just using info off of the cell towers could work if they were able to track the velocity and general location of the person, they could narrow it down to a street and then id traffic issues.

poulan @ Feb 9th 2008 1:58PM
Neutral
This sounds flawed...how does network central distinguish between somebody walking along a street at 5mph and somebody in their car doing 50mph?

poulan @ Feb 10th 2008 1:27PM
Neutral
yeah anonymous, I know that. Either you haven’t read the article or you don’t understand my point.

anonymous @ Feb 10th 2008 2:25AM
Neutral
GPS satellites are really just transmitting the current time, along with some other information. The satellites themselves don’t know where anyone is, all location and trip calculations are done on your GPS. Thus, your GPS would still have to transmit your location in order for any traffic analysis to occur.
efua @ Feb 10th 2008 12:20AM
The N95 does not have the battery problem any more. Nokia has changed the batteries that ship out with the N95. The had to remove the lens cover to be able to fit a bigger battery both for the regular N85 and N95 8GB

JFrink @ Feb 10th 2008 5:50AM
Just personal identifying information was stripped doesn't mean they can't still find out who you are. There are numerous inference attack methods that can be used to identify and track individuals using anonymous location data. There are numerous papers on this subject. For further info check out this paper by John Krumm:

http://research.microsoft.com/~jckrumm/Publications%202007/inference%20attack%20refined%20distribute.pdf