SO MUCH DATA, SO LITTLE SCREEN

Smartphones are swiftly overtaking the PCs and it's time consumer map providers streamline their applications to enable quick downloads on mobile platforms

Kevin MacDonald
Senior Architect, ThinkWrap Solutions Inc
kevin.macdonald@thinkwrap.com

Larry Page, Google's CEO, recently opined "Computing is moving onto mobile. Even if I have a computer next to me, I'll still be on my mobile device." And last year, Eric Schmidt, Larry's predecessor, shared Google's "mobile first strategy."

Mobile isn't Google's second or third strategy, it's their first.

And who could disagree? Certainly not the hundreds of millions who bought 380 million smartphones last year, or 110 million more in just this past quarter alone.

Consider, for a moment, the PC market which has survived on a veneer of profitability for more than a decade (and this is one reason why HP is looking to exit this market and take its money elsewhere). Little profitability means little innovation. So expect the PC five years from now to look much like the PC of today – which looks a lot like the PC of five years ago.

A smartphone's "app" culture, backed by hundreds of thousands of simple apps that sell for at most a few dollars, has made the smartphone the swiss army knife of computing. It's the versatile companion that causes people to forget why they own a PC.

If Google and its "mobile first strategy" is a barometer of where the Internet is going, PC software vendors – particularly those that cater to a consumer audience – need to rethink, retool and redesign before they become a casualty on a new information highway.

The transition will be bumpy, while they get over their 25-year addiction to Moore's law, which encouraged sloppy development practices and produced bloated, sclerotic applications overloaded with "marketing features" that are largely ignored. And any PC vendor that shoehorns its bloated app into the smartphone's svelte contours will receive a swift flogging on the app store review logs.

Nielsen Normal Group's "Usability of Mobile Websites" states that download delays are a main usability hurdle on 3G smartphones. And, at the Velocity 2009 conference, Google and Bing recounted experiments that showed a strong correlation between page load times and increased user abandonment.

Consumer maps generally deal with point data, presented as markers. The challenge here is to structure and organise marker data to minimise download delays, reduce CPU utilisation and preserve expensive network bandwidth.

A common approach transmits all markers from server to smartphone, where they are clustered via a JavaScript or C-based library. This reduces map clutter and improves visual aesthetics, but does nothing to address download delays, CPU utilisation or network bandwidth. This approach simply does not scale beyond a few hundred markers.

For more complex maps, cluster markers on the server transmit a smaller payload of clusters to the smartphone. You can roll your own solution, or use a third-party service such as maptimize.com, loxcel.com and geocubes.com.

A smartphone is not a desktop with a tiny screen. Manage map data appropriately, and a high score at the app store will be yours.