

## Making Connections at Geoweb 2006

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Earth Imaging Newsletter

If some of the latest technology and application developments showcased at the recent **GeoWeb 2006** conference are any indication of how our spatial world will look in the near future, then geospatial imagery and tools stand to become as ubiquitous as the Web itself.

Aptly titled "Everything is Connected," the GeoWeb show — which was held in Vancouver, British Columbia, Canada, July 24-28 — played heavily to the software developer's palette. Presenters spewed out open source and open standard acronyms faster than you can say OGC (**Open Geospatial Consortium**), as they showcased to the audience of 250 what geospatial data standards are allowing them and others to do.

One overriding theme present in a healthy swath of presentations was the move toward social networking applications — those applications or services that strive to connect people to places, be they teenagers, firefighters, soldiers, or surveyors. It's one of the latest waves of geospatial data mash ups that developers are pushing as the global interest in earth imagery is still palpable, thanks in part to **Microsoft** and **Google Earth** making geospatial information "i-POD cool" almost instantaneously.

Many application developments with a heavy focus on the connectivity and communication angle were presented at this year's GeoWeb. They're still in the teaser phase — too new to have operational users — but all are exciting, enterprising avenues that cannot be driven without geospatial data. In fact, what these social networking applications really are, if I can coin a new phrase, are geosocial applications.

A case in point is the latest location-based social networking application developed by **The Carbon Project** (TCP), a software development company based in Burlington, Massachusetts. Based on its main software development toolkit CarbonTools PRO, TCP announced on July 10 the release of CarbonCloud, a peer-to-peer (P2P) framework that enables users to find and to share location-based information using only the users' connected computers. Unlike standard data-sharing techniques by which users exchange information via the Web or a server, CarbonCloud employs network connectivity inherent in computers — WiFi cards, for example — to allow them to acquire, annotate, and share data directly with another person's computer in real time. There is no server or Web site involved.

The ability to create an adhoc, distributed network for real-time data retrieval, integration, and sharing would provide enhanced situational awareness for a number of user markets in the business, government, and consumer sectors. Firefighters, for example, could use it both to improve response and attack strategies and communicate more effectively. Based on a demo provided by TCP's Chief Executive Officer Jeff Harrison, this is how it would work: Say a tanker truck

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**With CarbonCloud technology, users can instantly share photos, maps and notes with each other without needing a server or Web connection. Courtesy of The Carbon Project**

"It's instant situational awareness and it evolves as their response progresses," said Harrison. "And if there is a really bad incident and the Internet goes down, CarbonCloud will still enable them to form an ad hoc network through their mobile computers using their wireless cards. Right now, a standard laptop or ultra-mobile PC Wi-Fi card provides a range of about 50 yards between connection points. In the near future, improved antennas that boost the Wi-Fi range will provide almost unlimited coverage potential. So as they roll up on the scene, they'll all establish their secure network and communicate in real time even with the Internet down."

The first operational test of this new technology will be in North Carolina. The company recently began rolling out what could eventually be a statewide CarbonCloud installation. Focusing initially on the cities of Raleigh and Charlotte, any public authority will be able to use the technology to obtain and share geospatial and related data instantly by early 2007.

Instantaneous, three-dimensional (3D) situational awareness is also at the helm of a virgin cell-phone tracking system developed by **Planet 9 Studios**, a 3D products and content company located in San Francisco. Using next-generation GPS cell phones coupled with 3D situational awareness systems, the company has developed a real-time tracking system that covers both people and objects. Initially targeted for the military (specifically the **U.S. Army**), the technology lends itself to broader markets, such as the consumer market (friends can track trends), the business market (companies can track inventory), and the public market (transit authorities can track buses.)

The U.S. Army has been field-testing the technology for the past three years. And David Colleen, chief executive officer of Planet 9, said that the tests have proven positive. With the tracking system, soldiers use GPS cell phones to broadcast their position in real time to commanders back at a central base and other soldiers in the field. The soldiers have a 3D view of the area they're in (based on geospatial data layers) and within that view they can readily see where their comrades are and share information with one another. The phones can also be bolted to equipment,

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"With the device and the technology, Army personnel now have a way to track individual soldiers and equipment, which they have never been able to do before," said Colleen. "They can communicate with each other, take a picture, and send it up the chain of command. They can also sketch on a map or a picture and send it to others. So if you want to say, 'I think there is a sniper on the roof,' you circle the roof and share it with others. All of this seems very militaristic, but if you strip it down to its core idea, it's a social networking application."

Whether it's said or not, the underlying core of all of this newness is spatial information — maps, aerial photos, satellite imagery, 3D models. If vendors are looking for ways to connect, socialize, and communicate in real time about places, they'll need geospatial data to do it. Jeff Harrison said it well when he quipped, "If you have no maps or imagery, you'll have no connection. You'll just stare at white space."