

INTERNET BUSINESS

Location, Location, Location

uLocate's GPS-based service helps you keep track of family and friends. **BY ALAN COHEN**

Big Brother may not know your every move, but your boss, your coworkers, and your spouse soon may. And they won't have to do much to find you, either. They'll go to a Web page for a map showing everywhere you've been all day—bad news if you skipped work to go to the movies, good news if you're stranded on the side of a road. What gave you away? Your cell phone. Thanks to new location-based services, your phone is not just a communications device, it's a homing beacon.

One of the first companies to launch a phone-based tracking service is uLocate Communications, a year-old startup based in Newton, Massachusetts. It has integrated the location technology being built into new cell phones with the Internet, creating private Web pages where customers can track the comings, goings, and (sometimes) unauthorized escapades of employees and loved ones.

Although uLocate (www.ulocate.com) has launched on the Nextel network and is available to subscribers who have one of three Motorola handsets, the service is very much a work in progress. Some of the biggest wireless carriers, including Sprint PCS and Verizon, are still upgrading their networks to enable location-based services. You can expect them to be location-aware soon, however, as federal E911 legislation mandates that they incorporate the technology into their networks so emergency response systems can locate any cellular handset.

What makes services like uLocate possible is the Global Positioning System, a constellation of 24 satellites that circle the Earth in synchronous orbits and continuously transmit radio signals to terrestrial receivers. By picking up the signals of three or more satellites, a GPS receiver can calculate its own position on the ground. Today's receivers can be miniaturized enough to fit easily and economically into

phone handsets. Indeed, most new phones have them—even if the networks they run on have yet to activate them.

A phone using uLocate links to the GPS satellites—at least three, but typically five or seven to get a fix within 100 feet of accurate—and calculates its location, speed, and direction of movement. A Java applet running on the phone sends this data over the cellular network, which, in turn, sends it to uLocate's server in Waltham, Massachusetts. The server—a Dell PowerEdge 1750 with dual 2.8 GHz Xeon processors running Linux—uses MapQuest Enterprise Server to turn longitude and latitude data into an address and plot it on a map, which can be viewed on a Web page or a phone.

To make the location data more useful to its customers, uLocate has developed some enhancements. For instance, users can set up "geofences" around specific locations; when a phone enters or leaves that area, an alert is triggered. This could be used to let parents know, by e-mail or SMS, when a child reaches school.

Location data is also stored—currently

for 90 days—so users can check someone's route days or weeks later. "It comes in handy when a customer complains that something didn't arrive on time," says Frank Schroth, uLocate's vice president of marketing. Indeed, uLocate's business users tend to be companies with field personnel. "They use it to check on deliveries, but also to cut down on the unauthorized use of vehicles and to ensure the safety of drivers," says Schroth. Consumers, on the other hand, typically use the service to keep tabs on children or other family members.

The system is not foolproof. For one thing, those being tracked can foil uLocate simply by turning off their phones. When a cell signal is dropped, uLocate is dropped with it. And since the GPS receiver in the handset needs a clear line of sight to at least three of the GPS satellites, the system won't work if the phone is indoors, underground, or in a covered vehicle. In that case, the map will display only the phone's last known location.

At press time, uLocate was available for free (users, however, must purchase a wireless data plan from their carrier), but Schroth expects it to go commercial this spring, with rates of approximately \$8 to \$9 per month for the first phone on the account and discounts for subsequent phones.

uLocate plans enhancements that will make the service a little more inviting for those being tracked. For example, after plotting your location, it could send you driving directions to the nearest ATM.

Your Personal Homing Beacon

uLocate has taken the location technology that's being built into new cell phones and integrated it with the Internet. After setting up a "geofence" around, say, your child's school, you get an alert whenever he arrives or leaves.

