

Geopepper™ Applications Usher in a New Era of Geographic Messaging Services

By M. Disbrow

Over the past few years, there has been a tremendous amount of excitement surrounding two new revenue-generation opportunities in the Information and Communications Technology world: advertising and location-specific services. Alcatel-Lucent Bell Labs has developed a unique Geographic Messaging Services Platform (GMSP)¹ that allows customers to successfully participate simultaneously in both of these opportunities with new and innovative end-user services.

Telecom carriers and large facilities – such as malls and sports arenas – can reach mobile users and offer automatic delivery of advertising messages that are relevant to their immediate geographical environment. The very same platform can be used to provide a host of other geo-based services. For example, location-specific social networking services can be offered in which messages are associated with friends when they approach a particular location (“I’m in the rear of the restaurant – come on back.”). Or services can be provided that issue alerts associated with geofencing² event triggers – such as when your child passes outside a pre-defined perimeter around his or her school.

Today, there is a variety of first-generation location-based services. For instance, users can look up nearby restaurants, get directions and find other information based on location. However, these are all PULL services that require the user to actively request information from the network. By contrast, the GMS is a PUSH service; it allows the network to proactively send content to users when they enter a geographic zone or a predetermined geofence area.

For example, Sally opts in to a peer-to-peer push service, and Mike – who already belongs to the network – associates some personalized content for his friends with an area in New York City, such as Times Square. When Sally enters that area, a Short Message Service (SMS) or Multimedia Messaging Service (MMS) is automatically delivered to her with Mike’s geo-specific content. We call this location-triggered messaging mechanism GMS.

In order to deploy “push” geolocation services, carriers need a central platform that can:

- Handle each handset’s location requests (potentially thousands in a single area) without bogging down the wireless network; and
- Enable any third-party service to “feed” information to this platform to be pushed to users.

To address these two critical needs, Bell Labs has developed GMS technology that harnesses:

- Predictive Movement – to minimize impact on network infrastructure, air interface, phone battery life; and
- Intelligent Client-Server – to share resources across a portfolio of servers, increase functionality and simplify implementation of new services.

In February 2008, a service using the Geopepper mobile marketing application went live, as a trial, at one of the largest sporting arenas in the United States. The local professional ice hockey team worked with Alcatel-Lucent to showcase the possibilities of the Geopepper mobile marketing

1 GMSP is a new platform for delivering location-driven messaging for cell phones. It is a message associated with a geographic region that is delivered to a subscriber when they are in that region. A GMS is a message delivered when a mobile device enters or exits a geofence. See: http://en.wikipedia.org/wiki/Geographic_Messaging_Service.

2 A geofence is a virtual geographic region (such as one mile around a mall or arena).

application. Hundreds of hockey fans were handed cards and invited to opt in to receive advertising text messages on their mobile phones. The messages were, in essence, digital coupons that could be redeemed for discounts offered by stadium vendors. To obtain the discounts, fans simply had to show the vendors the message and special code that was sent to them exclusively, via their mobile phone, during the event. This sporting arena trial illustrates one of the interesting applications for GMSP. It shows how large facilities can create a mobile marketplace that extends the physical reach of retailers directly to the consumers.

Alcatel-Lucent is also working with telecom service providers to establish a set of geofences that can define discrete mobile areas of commerce – throughout metropolitan as well as suburban and rural areas. The geofences are designed to connect mobile users to retailers in which users have expressed an interest and are co-located within the geofence. This is a major opportunity for service providers to harvest revenues from coffee shops, delis, boutique retailers as well as major chains. For instance, users who have indicated in their profile that they enjoy special-interest bookstores can be notified of a location that is right around the corner.

In addition, capabilities have been developed that will enable retailers or service providers to analyze user data – associate user locations with discrete geofences, allow retailers to send context-relevant messages and provide a suite of other associated functions. Service providers and retailers can use a web portal to create, edit and provision messages. The Geopepper mobile marketing application also offers an optional handset client application for devices that are GPS enabled. For non-GPS enabled devices, the Geopepper mobile marketing application uses the Mobile Location Protocol through a location gateway to access an end-user location. Geopepper sponsors can not only determine end-user location information, but also predict where users will go next, based on their current trajectory and prediction algorithms.

In short, the Geopepper mobile marketing application empowers Alcatel-Lucent customers with a unique and powerful platform to capitalize on the growing importance of geo-based advertising as well as being able to offer a host of other new geo-based services. *

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