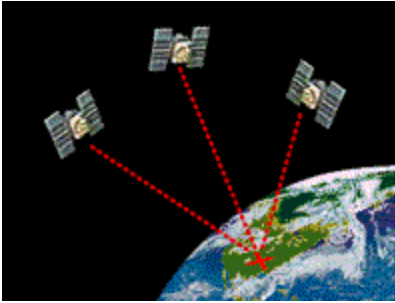


Location-Based Service Platform



Positioning Technologies

The fundamental technology behind location-based services (LBS) is positioning, with the most widely recognized system being the Global Positioning System (GPS). Network-based technologies are also available to determine the radio cell in which any mobile subscriber is located. In urban areas with high-rise buildings with limited line-of-sight to the sky, GPS falls into the “assisted” mode which shows the location of the radio cell with the strongest signal

strength. Although network-based technologies are not as good as GPS in terms of accuracy, they have better coverage and are generally the preferred technological approach.

Location-Based Services

A lot of value-added services can be implemented based on the knowledge of where subscribers are located, including:

- Advertising and marketing taking the form of short messages (SMS) aimed at target customers based on their current location.
- Locating banks, restaurants, movie theatres, supermarkets, etc. within a close proximity to the mobile subscriber.
- Tracking services such as discovering the whereabouts of vehicles, employees and friends.
- Location-based billing such as flat-rate calling while in the home area and special rates in other defined zones.
- Emergency services that pinpoint the location of mobile user and relays it to the appropriate authorities.



How It Works?

The simplest way to get the current location of a mobile subscriber is through the AnyTime Interrogation (ATI) service of the Mobile Application Part (MAP). This active approach suffers from loading the signaling network and can only be used for selected customers. Our LBS platform uses a passive approach by examining the SIGTRAN messages between MSCs and other components of the mobile network, including HLRs and RNCs. Take an example of a mobile-terminating (MT) call. The mobile

station (MS) will be paged and in the signaling message, we can find raw location information of MCC, MNC, LAC and SAC as well as the IMSI of the subscriber.

Raw location information is of interest to workforce management applications which want to locate the current whereabouts of the workforce. For mobile advertising and marketing, we may want to know the subscribers located in a zone consisting of a collection of radio cell identities. We may also be interested in subscribers entering or leaving specified zones. Your LBS applications can send these location event filtering criteria through the HTTP protocol to our LBS platform which will do the filtering for you.

Location-Based Service Platform

High Throughput

Thousands of raw location events has to be processed every second and this makes it impossible for any physical database to meet the stringent performance requirement. We have developed an “In-Memory Balanced Binary Tree Algorithm” which has been proven to be capable of handling such a large volume of location events.

Reference Site

Our LBS platform has been put into service in a mobile network operator in Hong Kong in the Year 2011.

For More Information

You are welcomed to contact us for more information about our LBS platform. Please send emails to info@teamup.com.hk or give a ring to +852 2581 1672.

