Location-Based Services

Location-Based Services/Applications

• Examples include:
  • Emergency 911
  • Navigation
  • Vehicle Assistance (OnStar)
  • Child Finder
  • Advertising
  • Local Search
  • Traffic applications
  • Automotive Vehicle Location (Fleet tracking)
  • Asset Tracking
  • Personnel Tracking
  • Social Mapping
  • Self Guided Tours
  • Finding elderly or individuals with Alzheimers

Regular GPS vs. AGPS

Regular GPS is fine when you’re in the clear with a strong battery, powerful receiver and a line-of-sight view of the sky. But indoors and with less powerful systems, you need assistance. Another problem is TTFF (Time to First Fix).

AGPS (Assisted Global Position System)
  – The receiver communicates with an “assistance server” that helps calculate position using GPS coordinates and possibly other data such as distance from cell phone tower(s). Computations may take place on remote server.
Assisted GPS: Rough Idea

Assisted GPS: Approximate

Assisted GPS: Accurate Fix
AGPS systems can also download map data, points of interests, and other data on demand even to a device with limited storage capacity.

- GasBag for example can plot service stations and gas/petrol prices.

The Scope Of LBS Services

Industry Direction

Location
accuracy, availability, frequency, inexpensive
Self-Reporting & Social Networking

Users tell the system where they are and/or what they are doing

Aka-Aka, Belysio, Bliin, Blumapia, Blummi, Brightkite, Buddy Beacon, Buddycloud, BuddyMob, BuddyWay, buzzd, Carcipate, Centrl, CitySense, ComeTogethr, Dodgeball, Dopplr, Duzine, EagleTweet, FindbyClick, FindMe, Flaik, Footprint History, FourSquare, Foyaje, Fraced, Friends on Fire, GeoMe, GeoSpot, GeoUpdater, Glympse, Google Latitude, Groovr, GyPSii, ICloseby, iPling, Ipoki, IRL, Jentro, LightPole, Limbo, Locaccino, Loca@k, Locatrix, Locr, Locle, Loki, Loopt, Map My Tracks, Match2Blue, MeetMoi, Meet Now Live, Microsog Vine, Mizoon, Mobilaris, MobiLuck, Mologogo, Moximi@, My Adventures, MyGeoDiary, MyGeolog, Myrimis, Now Here, Nulaz, Plazes, Pocket Life, Pownce, Quiro, Qlique, Rummble, Shizzow, Skobbler, Skout, Sniff, Snikkr, Socialight, Sparrow, Spot Adventures, SpotJots, The Grid, Toai, TownKing, TownQueen, Trackut, Trapster, Tripit, Troovy, Twibble, Twinkle, TwiYelator, Unype, weNear, WHERE™, Whereis Everyone, WhereYouGonnaBe, Whrrl, Zhiing, Zin@n

Why phones have location capability

The Federal Communication Commission's Enhanced 911 Rules

- **Phase 1** requires carriers, upon valid request by a local Public Safety Answering Point (PSAP), to report the telephone number of a wireless 911 caller and the location of the antenna that received the call.
- **Phase II** requires wireless carriers to provide far more precise location information, within 50 to 300 meters in most cases.

Geo Tagging

What is Socialight?

Camera - Always Connected.
WPS: Wifi Positioning System

- Skyhook Wireless has been driving the country mapping out WiFi hotspots in top 2,500 cities. Has database of > 16.5 million access points, public private & encrypted.
- A device can get a fix from a WiFi hotspot
- Increasing number of handheld devices including “Skype Phones” can access WiFi systems

XPS (SkyHook)

Short distance technologies

- RFID – Now used to track assets. Could be used in hospitals to track patient movement within facility
  - Ericsson’s Bluetooth Local Infotainment Point (BLIP). Automatic ‘ coupons as you walk near a BLIP device
2009: The Year of LBS

- 4% decrease in mobile device sales.
- Growth of LBS market from 41 million (08) to 96 million (09).
- Revenue: 1 billion (08) to 2.2 billion (09)

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Source: Gartner Data 2009