

# Supersensitive GPS for web-services of next generation

[www.spiritDSP.com](http://www.spiritDSP.com)

# Why positioning on notebooks / netbooks – LBS

## LOCUS REGIT ACTUM (location defines human's activities)

Location Based Services (LBS) are information and entertainment services accessible via Internet

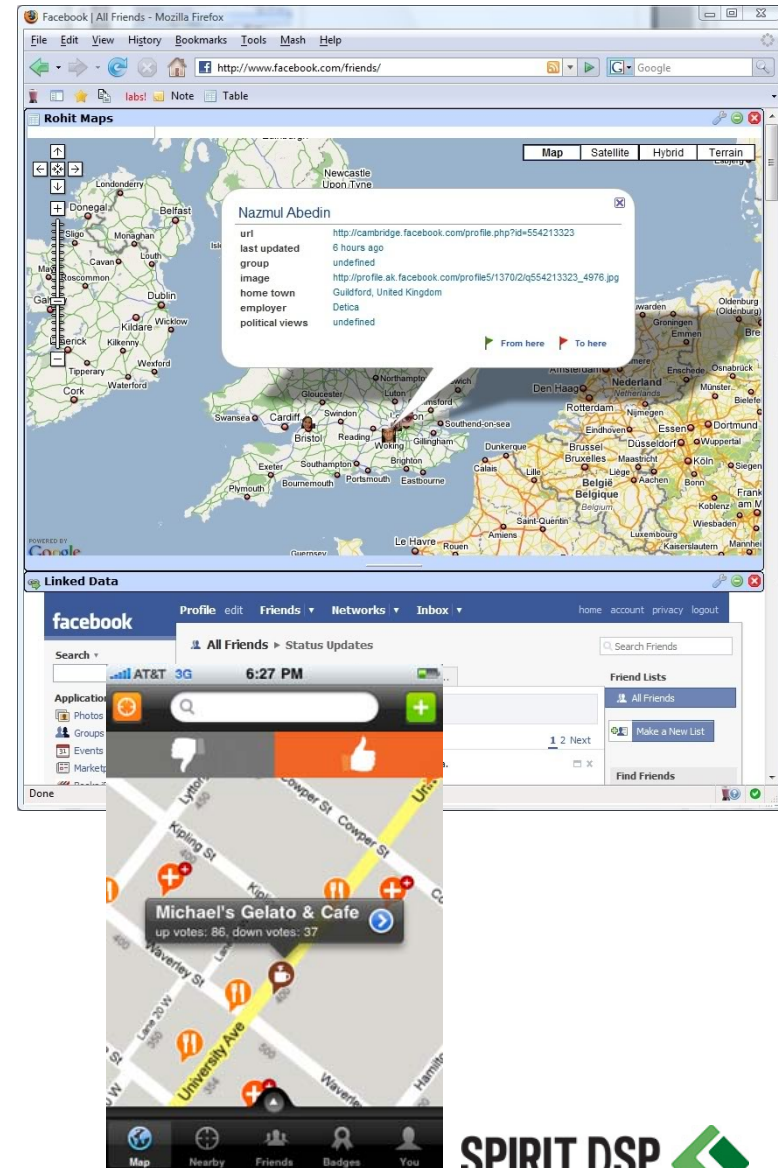
- Fast growth of LBS on mobile devices over past 2 years
- Users desire seamless integration between PC-based and mobile applications
- Rapid downsizing of PC, since 1.5 years laptop sales surpass desktop, 50 million global netbook sales in 2010
- More time on PC than on smartphone, smartphone has GPS but is not convenient for Internet surfing, netbook is convenient but does not have GPS which need to work inside premises



Navigation on PC is a clear next step

# Use Case 1 – Social Networks move into location

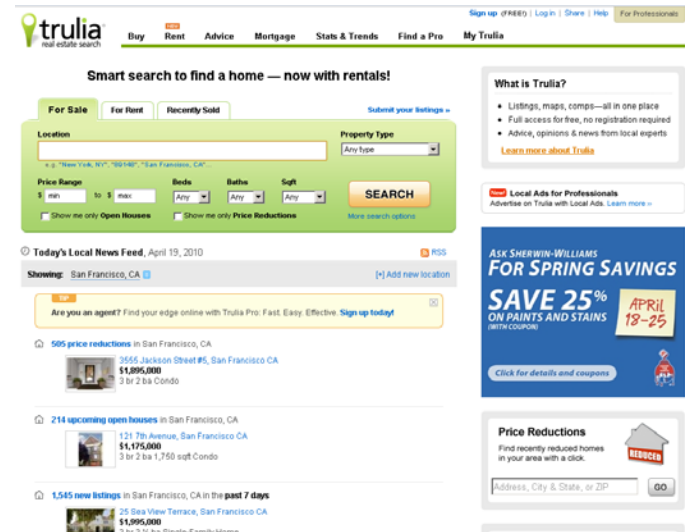
- If allowed by user, seamless indication of location right after logging into a social net service
- Seamless transmission functionality when switching between smartphone on the go and laptop under the roof
- More convenient to search for, and to be searched by, potential buddies
- Additional semantic / information / functional layer using dynamic indication of location



# Use Case 2 – User Generated content with local anchors

Automatic pinpointing of user's location allows:

- To deliver geo targeted information and services
- To become more user friendly
- To look like highly automated website
- For example: "yelp" and "trulia" ask for manually input of actual position data

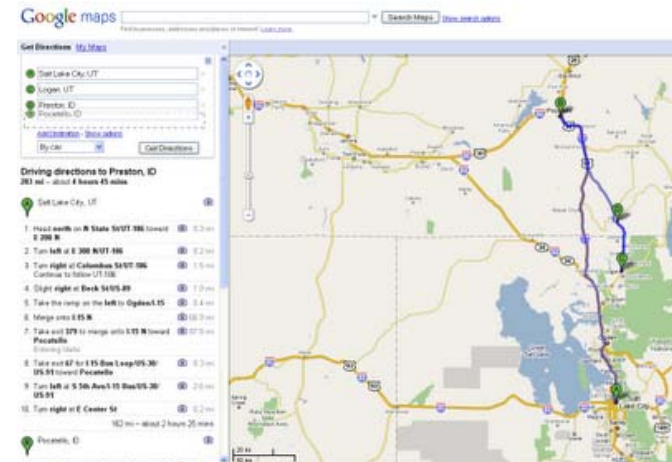
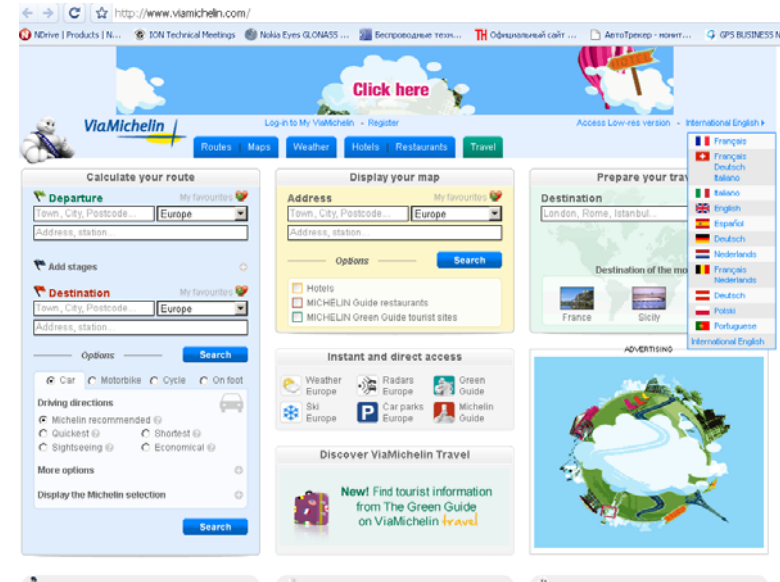


# Use Case 3 – Route planners

- Address to enter could be complicated, especially if outside of your country

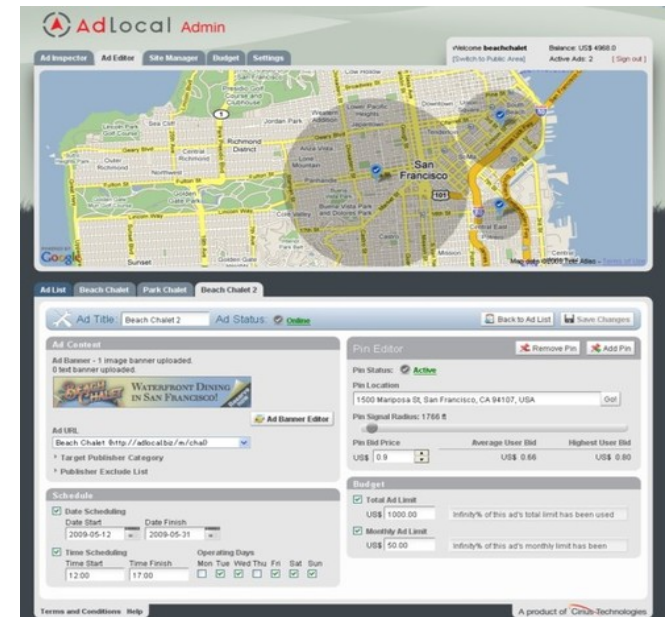


- Your point of departure will be always filled in automatically
- You'll plan your route with just one click
- Cuts interaction time at least in half, efficient for services like delivery or public safety



# Use Case 4 – Location Based Advertising

- You will enjoy Local Search
- You can receive location specified hints and advertising
- You can tune location-based advertising in proactive push-mode to your taste
- You can get more accurate statistics (data mining) of user travel behavior (where he/she goes, how regularly, how long stays, etc.)



# Use Case 5 – Search and Rescue

- You'll have more chances to be searched and rescued in extraordinary situations
- You'll take advantage of personal security services support
- You'll be able to rapidly find and bring back your lost laptop
- You'll enjoy high-level of theft protection
- You'll guarantee information security by permanent location monitoring of corporate portable computers



# Problem to be solved – reliable indoor/outdoor positioning

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Laptops, netbooks are commonly used indoor:

- at home
- at school
- in the office
- in a café
- in a hotel lobby



Satellites signal in difficult natural conditions, urban jungles, inside premises:

- strongly attenuated
- reflected
- multipathed
- distorted by electromagnetic interferences (EMI)



Commercial GPS receivers do not work at all!

Assisted GPS is complicated to implement and expensive to use!





# Supersensitive GPS-receiver for netbooks

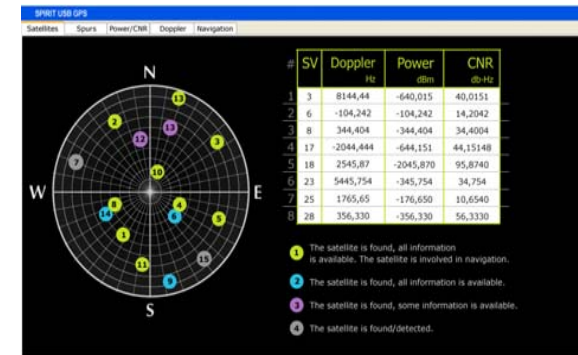
SPIRIT's Supersensitive software navigation receiver is specially designed:

- for notebooks and netbooks
- to provide reliable positioning in difficult conditions (urban, indoor environments)
- to provide increased positioning reliability in every moment

## Advantages:

- increased positioning reliability in every moment
- super sensitivity (one-hundred-fold or on 10-15 dB higher) comparing with any commercial navigation receiver
- Interned-based aiding (long-term ephemeris, Assisted-GPS)

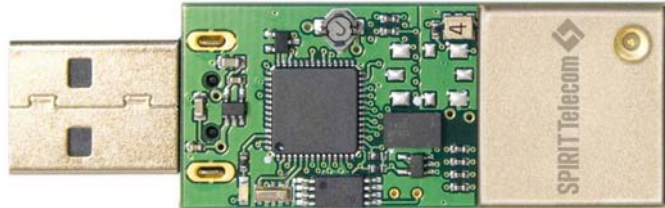
*The advantages provided by sophisticated signal processing of attenuated satellites' signals based on coherent accumulation and EMI suppression algorithms*



# Supersensitive GPS-receiver for notebooks / netbooks

## Receiver's composition:

- Software
  - Simple to integrate, high-level software API
- Hardware reference design
  - RF-hardware adapter (RF-frontend)
    - ✓ USB peripheral
    - ✓ Could be integrated on motherboard



# Marketing potential: 3G/4G modem

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- 60 million global external pluggable 3G modems sales in 2010
- Tough competition
- Price erosion 25%
- Adding “standard” new features like 4G support does not help, easy to duplicate
- Market explosion due to LTE
- Need for competitive differentiation which is difficult to duplicate



→ combine 3G/4G modem with supersensitive GPS in one plug-and-play USB module

# Marketing potential: notebooks / netbooks

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- 150 million global sales in 2010
- Must meet requirements at location-centric convergence devices
- Tough competition
- Need for competitive differentiation



→ increase your products' attractiveness  
with supersensitive GPS

# SPIRIT Has 200 Global Customers



... and 200+ more

## SPIRIT solutions are used by:

- World's top carriers and service providers
- Terminal and infrastructure equipment OEMS/ODMs
- Integrated solutions vendors, application and game developers