

System analysing pedestrian movement in city environment

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Outline

- Motivation
- Location providers
- Case studies
- Behavioral patterns
- Statistics gathering

Spirit-Guide

- Interactive tourist support system
 - voice guide
 - tourist information
- Fully location based
 - positioning with high accuracy
 - positioning with known accuracy
 - information zoom level

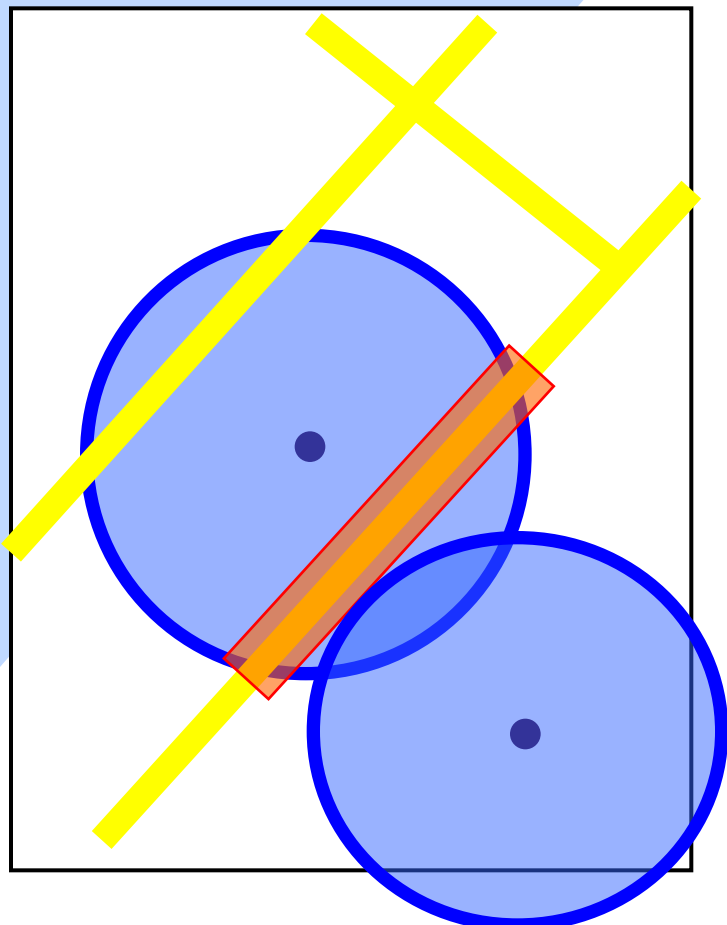
Location providers

- GPS
 - Battery
 - Cold start
 - Narrow streets
- GSM
 - Low accuracy
- Wi-Fi
- Positioning to the street network
- Sometimes, ask user

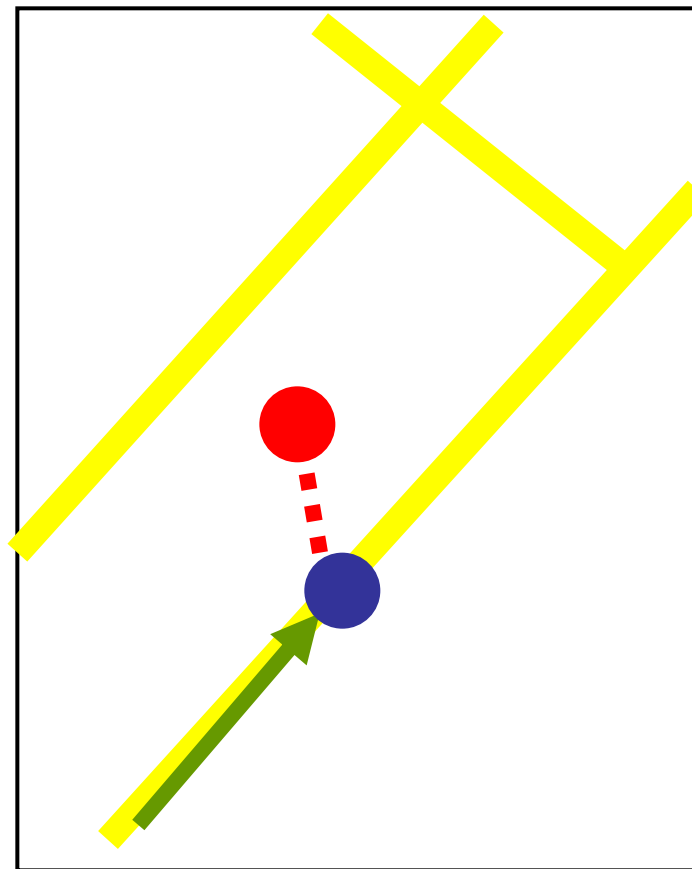
Let's combine

Case studies

1 – GPS cold start – using GSM

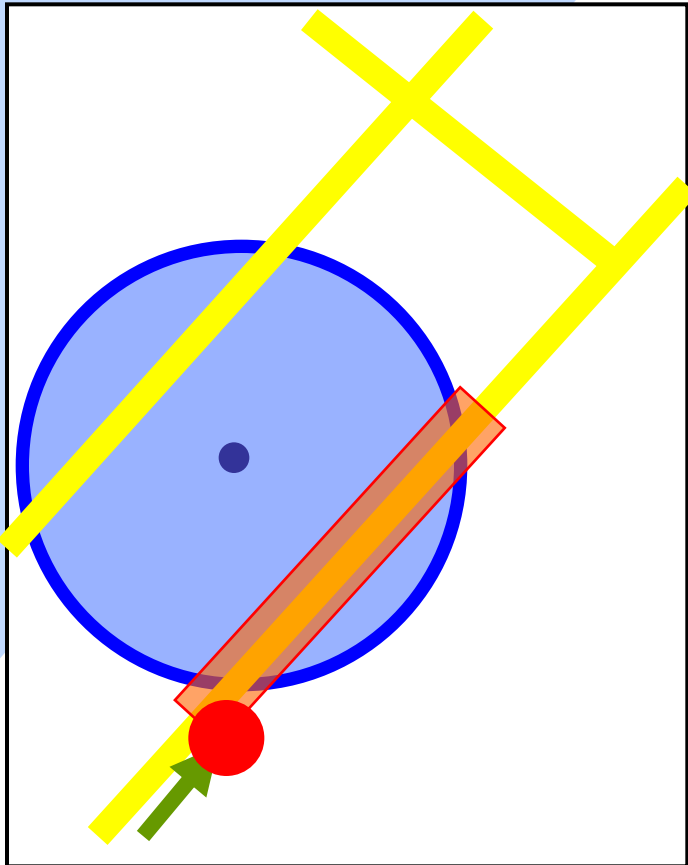


2 – GPS working

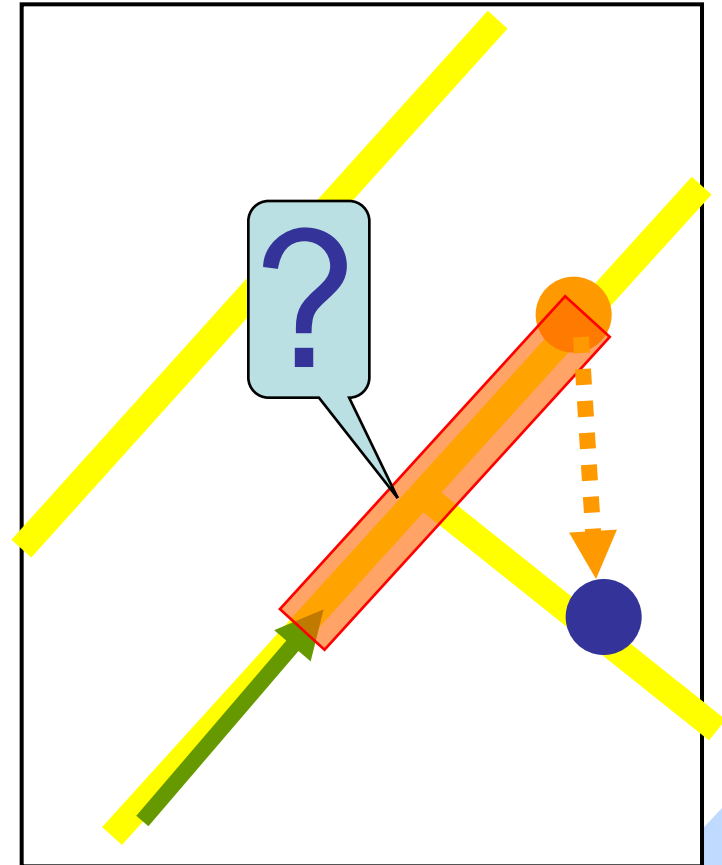


Case studies - 2

3 – GPS failed – use GSM



4 – GPS working again



Behavioral patterns

Behavioral patterns
based on user movements:

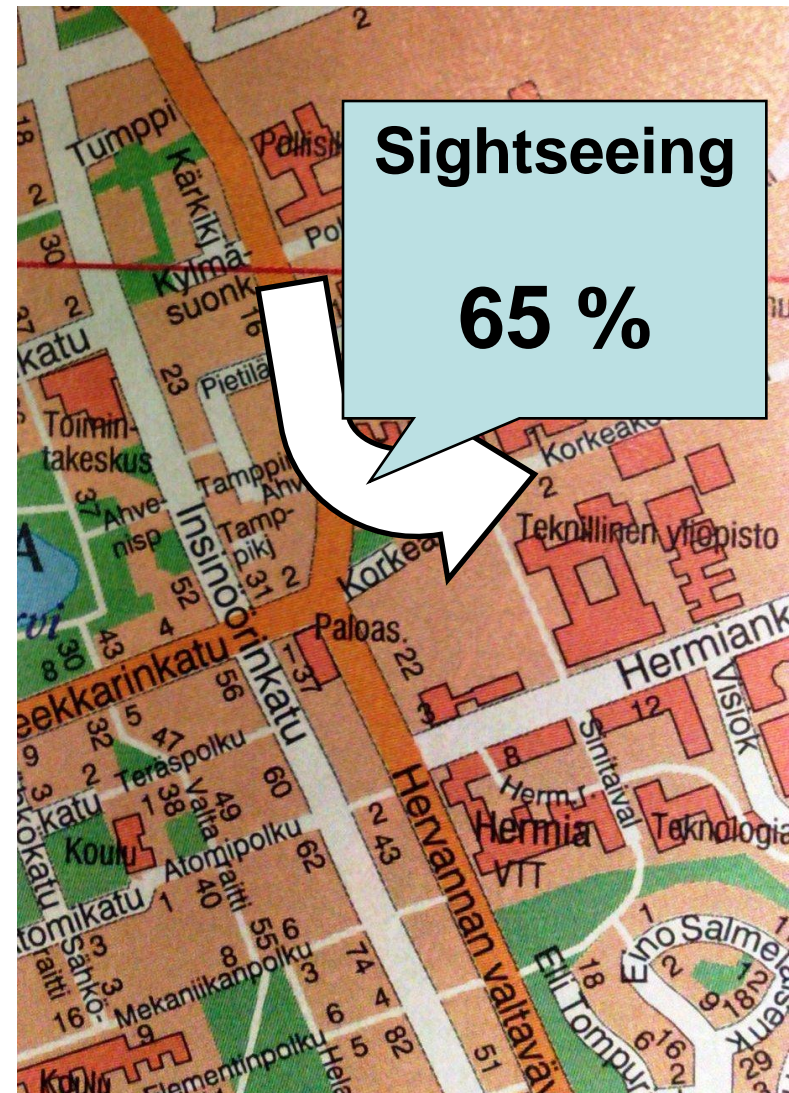
- Sightseeing
- Shopping
- Hidden places
- Promenade
- etc

Affects movement predictions
and information provided



Movement statistics

- Movement statistics for current pattern
- To guess current or to predict future position
 - With known probability
- Crossroads affects information zoom level



Project steps

- Aggregating location data
- Developing combination mechanism
- Definition of behavioral patterns
- Statistics gathering mechanism

Thank you



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