WayFiS: From Geospatial Public Transport Information to Way Finding Seniors

Mattia Gustarini and WayFiS consortium
Workshop on User Issues in Geospatial Public Transport Information
WayFiS

- European project
- Hungary
- Spain
- Switzerland
- Ambient Assisted Living program
- Started on 1 March 2011
Overview

• Background, starting point
• Contribution of WayFiS
• Challenges and difficulties (surface scratch)
Background

• Existing navigation systems
  • Navigon, Nokia, Garmin, Google Navigator, ...

• Existing map and points of interest providers
  • Google Map, Bing, ArcGis based systems, ...

• Existing public transport information systems
  • Google Transit, Public transport companies
Background

- Problems
  - Services heterogeneity
  - Services data not up to date
  - Services data lack of important information
    - for example for users with special needs (elderly, disabled, and etc...)
  - Indoor navigation?
  - Navigation systems are **not** targeted to be used by people with reduced mobility!
WayFiS Aim

- Help **elderly people to move** in unknown indoor and outdoor environments
- Plan, manage and execute travels independently
- People older than 70 years old
- Not familiar with technology
- Living alone and suffering from health limitations
WayFiS Aim

• Public transport and paths by foot

• Take into account specific limitations and healthy habits

• Extensively use of points of interest like: toilet, pharmacy, bench, park, hospital, and etc...
Example Prototype

- Plan trips from point A to point B
- Explore the concept of buffer
  - User walking ability
- Points of interest
- ArcGis Android API + ArcGis Server
Example Prototype
Example Prototype

A ★

★ B
Example Prototype

A

Initial path

B
Example Prototype

Initial path

Bus stops

A

B
Example Prototype

- Initial path
- Buffer
- Bus stops
Example Prototype

- Initial path
- Buffer

- Bus stops
- Points of interest (bench, park, pharmacy, ...)

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Example Prototype

Bus stops
Points of interest (bench, park, pharmacy, ...)
Selected points of interest
Example Prototype

- Orange circles: Bus stops
- Green circles: Points of interest (bench, park, pharmacy, ...)
- Blue circle: Selected points of interest
- Red dashed line: Buffer
- Green line: Final path
Example Prototype

Trip planning (1/4)
Indicate the starting address:
- Use current position
- Street: Insert the street name
- Number: Insert the street number
- Zip Code: 1200
- City: Geneva

Trip planning (2/4)
Indicate the ending address
- Street: rue de drize
- Number: 7
- Zip Code: 1227
- City: Carouge

Trip planning (3/4)
Indicate the trip day:
- May 31, 2011

Trip planning (4/4)
Indicate the arrival time:
- 13:00

Plan trip, Next Trip, Incoming trips, Completed trip
Example Prototype
Example Prototype
Example Prototype
Example Prototype

- Trip planning (1/4)
  - Indicate the starting address:
    - Use current position
    - Insert the street name
    - Insert the street number
    - 1200
    - Geneva
    - Check on map

- Trip planning (2/4)
  - Indicate the ending address:
    - Rue de drize
    - 7
    - 1227
    - Carouge
    - Check on map

- Trip planning (3/4)
  - Indicate the trip day:
    - May
    - 31
    - 2011

- Indicate the arrival time:
  - 13:00
Example Prototype

- Trip planning (4/4)
- Walking ability
- Do you use one of them?
- Selected Crutches

Plan trip
Example Prototype
Example Prototype
Challenges

- Collect the requirements from elderly of different countries
- Where do we can find them?
- Different needs
- Different environment
- Different culture
Challenges

• System evaluation (service and interface)

• How to involve elderly people and quantify results? Acceptance of the technology?
Conclusions

• New “world” where to apply geographical services and utilities

• How much the user will adapt

• How much the current systems must evolve (quantity and quality of information)

• How to evaluate the system

• How to promote the system once is ready, users acceptance...
Thank you!

• Questions?

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