Improving Accessibility Information in Pedestrian Maps and Databases

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Background

HaptiMap

- Haptic, Audio and Visual Interfaces for Maps and Location Based Services (HaptiMap)
- Receives financial support from the European Commission in the 7th Framework Programme

HaptiMap - goal

- Location-based services (LBS) that are accessible also by special user groups and support their use of spatial information

- Design guidelines and an adaptable toolkit for application developers

- www.haptimap.org

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Motivation

Guidelines for data content and data classification, to make maps and LBS, and thereby the physical environment, more accessible for all.

Pedestrian Route Maps and Databases in Finland - feasibility study of accessibility

- The current situation of pedestrian maps and map services in Finland
  - National maps, OpenStreetMap
  - City maps
  - Hiking and outdoor maps
  - Town wondering routes
  - Accessible paths
  - Route planners
- Guidelines for planning and classification

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Pedestrians with different needs

- Spatial databases for pedestrian route planning should contain more detailed information on accessibility

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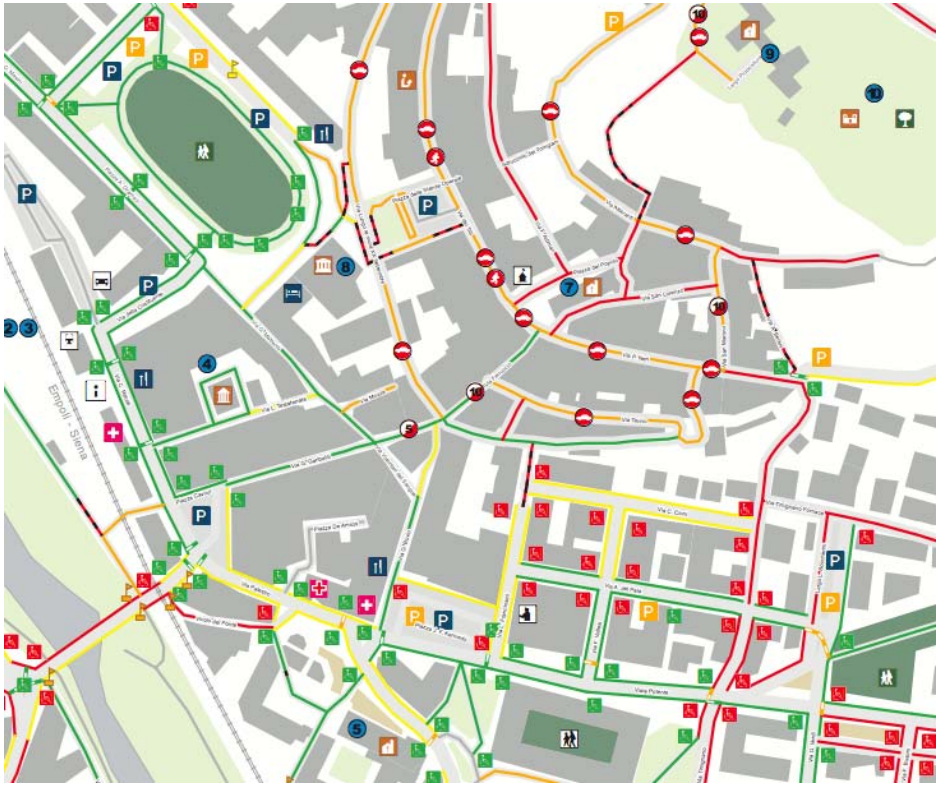
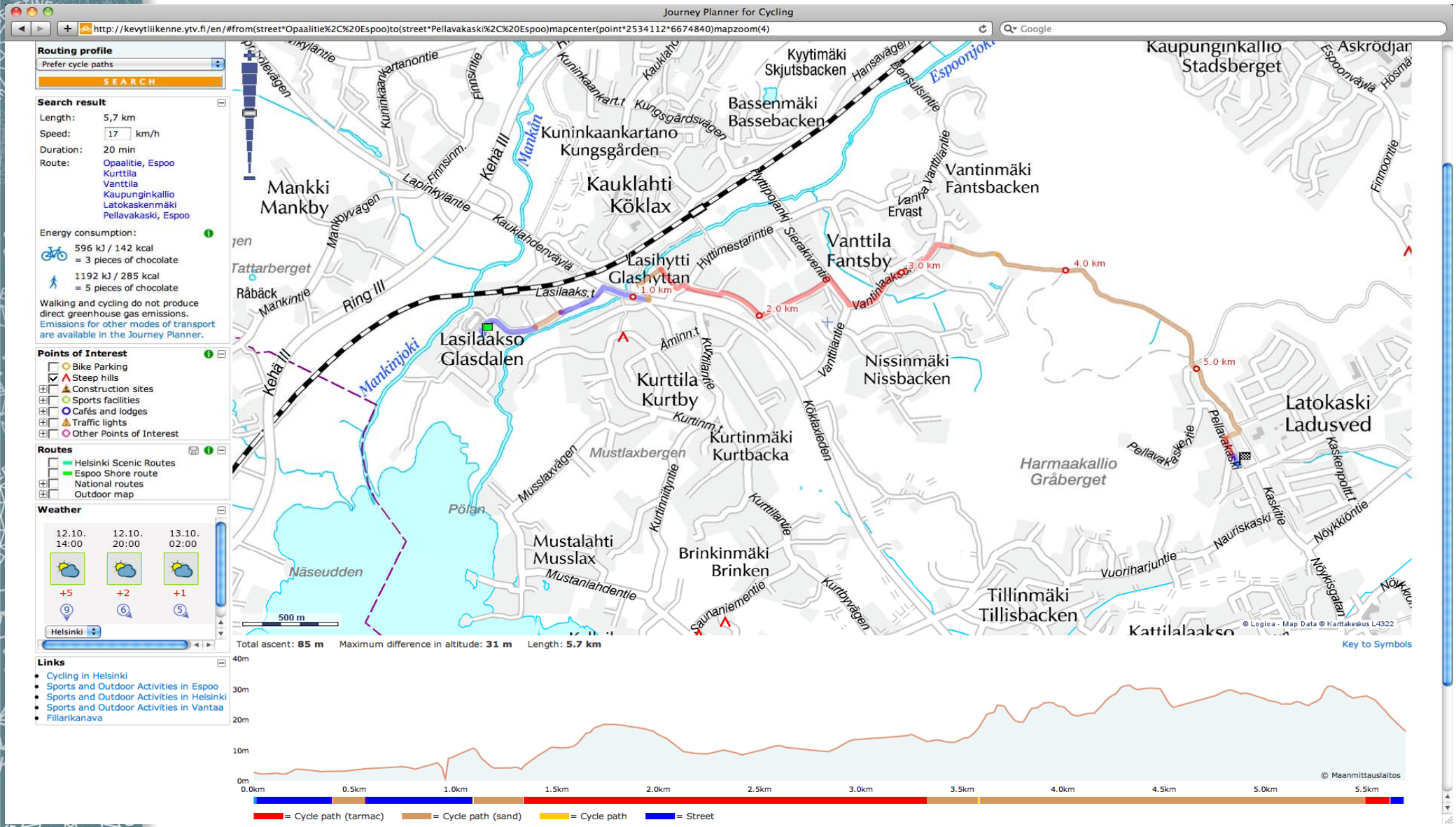
OSM - OpenStreetMap

- tactile_paving=yes/no,
- traffic_signals:sound=yes/no, vibration
  traffic_signals:vibration=yes/no
- crossing=traffic_signals;island
  crossing=uncontrolled;island



A view of the OSM; accessibility of Castelfiorentino

Helsinki Regional Transport's journey planner for cycling and walking



http://pk.hsl.fi/en/

Geospatial Data Contents

- Height profiles of the roads, or at least indications where slopes are greater than 5%.
- Surface of the road and tactile paving
- Lateral inclination of the road, if more than 2%
- Width of the walkway / gateway, if less than 2m
- Stairs, escalators, and lifts marked
- Pedestrian subways and overpasses
- Squares and parks
- Public transportation stops and stations
- Landmarks: visible and sonic
- Benches and other places to rest
- Streetlights (or their absence)
- Obstacles, high kerbs, construction sites
- Crossings and traffic lights with audible pedestrian signals
- Entrances for buildings
- Current information on maintenance, especially in winter

Quality of data

- completeness
- logical consistency
- positional accuracy
- temporal accuracy
- thematic accuracy

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To enable user spesific maps and route planning

- Guidelines for data contents
- Data classification
- User centred design for functionality

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Thank you!

HaptiMap