

# Generalization for mobile devices/services

*summarized by Martin Galanda*

## Requirements of mapping (generalization) for mobile devices

- display size (further development?!)
- transmission rate (progressively transmission)
- performance of the client
- unknown user group
- dynamic mapping process (adaptation to the change of the user's position)
- flexibility according to different mobile devices

→ 'nice generalization' vs. 'technical limitations' vs. 'user expectations'

## Base data

- offline vs. online and raster vs. vector (storage size)
  - a hybrid approach, for instance 'background map' stored as raster on the mobile device and up-to-date information received online as vectors
- data sets provided by NMAs should serve as basis (data integration?); the service provider is responsible for the data enrichment
- single master data base vs. multi scale data base

## Algorithms

- the user-profile facilitates semantic generalization
- technical limitations demand for 'easy/simple' algorithms
- if the user's position is integrated in the map the topologic consistency of that position and the map objects must be ensured
- server- vs. client-side
- selection is the most important and efficient generalization operator in the context of generalization for mobile devices
- precedent (automated) data enrichment is a key factor
- outgoing from a LoD of a multi scale data base
- new kinds of generalization algorithms like morphing

## Visualization

- constrains have changed:

- paper (mobile but no interactivity)
- computer (interactive but restricted in mobility)
- PDA (interactive and mobile)
- overview often lost → new design options, e.g. fisheye projection, egocentric cartography
- maps can be generated based on up-to-date data

In comparison to generalization for paper maps generalization for mobile devices has become more difficult due to technical limitations but also easier due to interactivity (e.g. display of respective feature classes only on demand).