

OpenStreetMap for Blind Users

State of the Map Europe
Vienna, July 2011



Dipl.-Ing.
Annette Thurow

Agenda

- Just a map on the internet
- Usecases on geodata
- Accessibility
- Map Accessibility
- Basic needs of blind or visually impaired users
- Replacing visual information
- How much information?
- The largest text adventure in is the world
- Look and Listen Map
- Features
- Future ideas
- Another project: Haptorender
- Team members wanted: LoroDux
- We need support
- Contact

Just a map on the internet!

- There are many online maps and routing websites, even with OSM content
- Not a single one of them is accessible for use with braille display and/or screenreader
- The user group are Blind travellers, pupils and students, but also visually impaired persons, and sighted persons sharing information
- Working title is „Look and Listen Map“.

Usecases on geodata

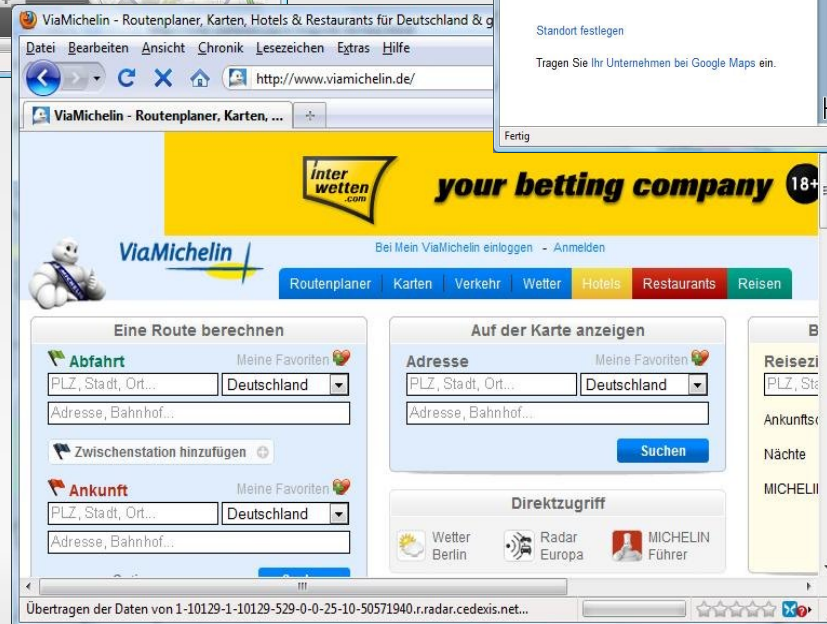
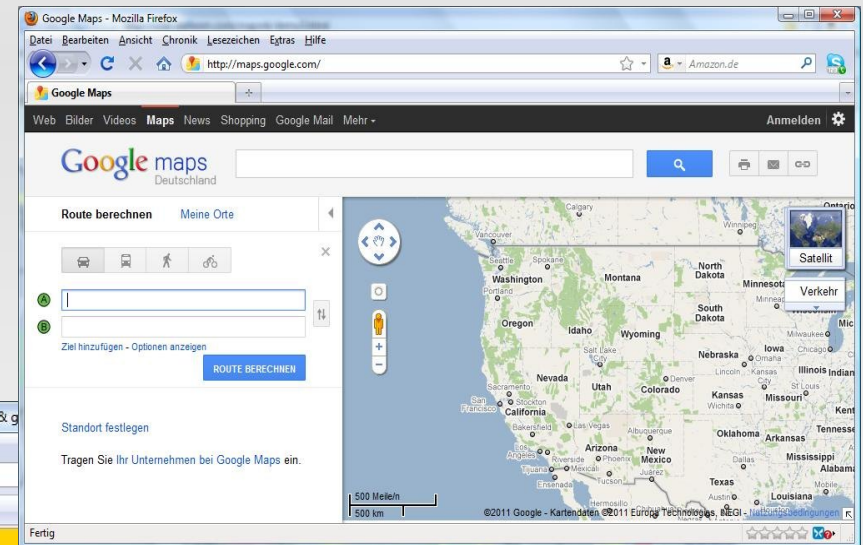
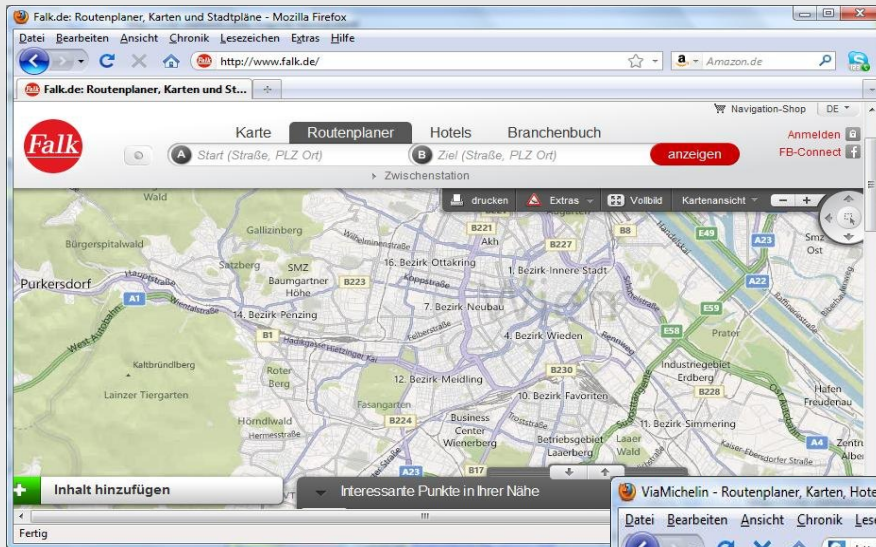
- Get an overview of an area
- Find landmarks
- Get to know relative positions of objects
- Prepare a route
- Share information with somebody else
- Mark objects or routes for later referral

- → For blind persons?

Accessibility

- Accessibility means, that you can access information and functionality regardless of your disability.
- Accessibility means, you can do it on your own.
- Accessibility means, you have the same amount and quality of functionality
- Accessibility means, you can work efficiently.
- Accessibility is not reached when a screenreader works on a webpage!

Map accessibility?



No!

Basic needs of blind or visually impaired users

- Choice of colors and font size (save for later use)
- Sound and/or braille output
- Well structured website navigation, use text efficiently:
 - Start lines with most meaningful content
 - Use smart names for hyperlinks
- Map navigation without mouse:
 - Zoom, pan, center.
- Add information of special interest
 - Tactile models or maps
 - Tactile paving
 - Traffic signals with sound

Replacing visual information

- Transfer visual information like you can explain it on the phone:
 - „Hamburg is a large city in northern Germany. Bremen is to the west and Hannover is to the south of Hamburg.“
- Use different landmarks, e.g.:
 - Don't only name streets to turn into, also count crossed service ways

How much information?

- On one hand, screenreaders are so time consuming, but on the other hand, blind persons need even more text information!?
- Our solution:
A tree view!

- (Show tree view on file system)

The largest text adventure ~~in~~ is the world

- Project's working title is „look and listen map“.
- Won a price in the competition for project ideas about open data/open knowledge „Wissenswert“ of Wikimedia Germany 2010.
- Goal: a fully accessible routing and map website with OSM data, including exploration mode: „Walk around in the real map like in a text adventure“.

Look and Listen Map

- Project status:
 - Project planning finished
 - programmer found
 - need more money

Features

- Run on any device with browser (including mobile devices)
- Internationalization (Languages, units)
- User login for stored preferences, locations, routes
- Export to navigation devices/tools (LoroDux, Loadstone, Kapten etc.)
- Visual map to share information with sighted persons
- Take-a-walk mode for free map exploration

Future ideas

- Include public transportation in routing
- 3D tactile maps (Projekt Haptorender)
 - Offer download of 3D data for tactile maps
 - or include a shop to order tactile maps
 - Use braille writing and add a legend for abbreviations
- Rendezvous functionality:
 - Two users with mobile devices want to meet, server recommends to routes to optimized meeting point.

Another project: Haptorender

- Haptorender is a project to produce tactile maps with OSM data.
 - Templates of traditional handcrafted tactile maps are available
 - Font can already be changed to Braille easily
 - To do:
 - Decide what's in the map and what not
 - Choose 3D texture styles for tags
 - Create .stl 3D machine format from OSM data
 - Automatic abbreviations on the map and automatic legend creation

- (Show tactile map on document camera)

Team members needed:LoroDux

- Project LoroDux:
A graphics-free navigation solution on JavaME
- Used by blind persons with screen reader
- Geocaching mode works fine
- Todo:
 - Minor bugfixing needed (small tasks!)
 - Implement routing
 - Maybe switch to OSM binary file format



We need support

- Really cool projects: 3D, augmented reality!
- Well approved requirements available
- Small or large tasks to share
- Sponsors wanted
- Cooperation / integration with other OSM projects wanted
- Target user group really needs this!
- Join „OSM for the Blind“!

Contact

- Questions?
- Visit us in the wiki http://wiki.osm.org/wiki/for_the_blind
- Subscribe to the mailing list
accessibility@openstreetmap.org
blindennavigation@lists.openstreetmap.de
- Annette.Thurow@gmx.de
- Donate to the projects on www.fossgis.de