A Combined In- and Outdoor Map for Android

A seamless in- and outdoor map viewer for OpenStreetMap data and its implementation
Indoor data for OSM – What's the current state?

- IndoorOsm: http://wiki.openstreetmap.org/wiki/IndoorOSM
Data scheme - IndoorOsm by Marcus Götz et al

- Hierarchical data structure
- Rooms, walls, floors are mapped as buildingparts
- Further information of the building is added as key-value pairs
- Inner room elements like desks, tables are not considered
Extended Data scheme – Introducing room parts

Outline
Introduction
Data Scheme
App Design
Usage
Outlook

Example:

<<Relation>> building
<<Relation>> level
<<Relation>> buildingpart
<<Way>> roompart
<<Node>> Node

building
House

level
0

buildingpart
floor

buildingpart
bathroom

roompart
toilet

roompart
shower

roompart
shell
Data scheme – How to map indoor data?

Outline
- Introduction
- Data Scheme
- App Design
- Usage
- Outlook

Outdoor maps

• Fit floorplans into existing outdoor maps

Floorplan

JOSM

● Fit floorplans into existing outdoor maps
App Design - Concept

Outline
Introduction
Data Scheme
App Design
Usage
Outlook

OSM outdoor maps

Outdoor maps in binary format

mapsforge
Map-writer plugin for osmosis

Indoor maps in XML

Control-Logic

Indoor data structure

Indoor-Parser

Indoor-Renderer

mapsforge Rendering library

Indoor maps

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Outdoor maps

Indoor maps

Outdoor maps

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Outline
Introduction
Data Scheme
App Design
Usage
Outlook

Usage

- Download app from: http://bit.ly/1p1vfFV
- App is delivered with preinstalled outdoor map of Chemnitz and a university building indoor map
- Other maps are selectable through the Overflow button
Outlook

Planned Features:

- Storing the indoor data in a map file
- (Re-) add support for the IndoorOsm data scheme
- Rendertheme support for indoor data
- Routing support

Scope:

- Integration with an indoor positioning network
- Navigation within multi level car parks
Thank you for your attention!

Ideas and questions to:

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