Simple Indoor Routing on SVG Maps

Julian Ohrt, Volker Turau
LISE2013, October 28
Finding the way inside

FLOORPLAN

OG 2
THIRD FLOOR

OG 1
SECOND FLOOR

EG 2
FIRST FLOOR

Julian Ohrt
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## Approaches for indoor maps

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You are here
(Beretta & Naidoo Sports & Medical Physiotherapists)

You want to be here (Beds & 
...
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Premises for our navigable maps

- Re-use existing floor plans
- Support multiple levels
- Allow easy point-to-point navigation
- Run inside web browser
- Offline and locally stored maps
- Integratable with future positioning technologies
System design: SvgNaviMap

- Use existing map
- Add routing information
- Pin to geolocation
- Send to smartphone
- (integrate position provider)
- Use map for indoor navigation
Routing information

- Draw on top of map (overlay)
Routing information

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- Bi-directional graph (across levels)
Routing information

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- GPS markers (at least two)
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- Altitude of each level
Routing information

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- Affiliation areas (for each node)
- GPS markers (at least two)
- Altitude of each level
- Store as XML file

```xml
<!-- svgmap-data.xml -->
<svgmap-data>
  <levels>
    <level>
      <id>0</id>
      <svgpath>airport_level1_fullsvg_big.svg</svgpath>
      <min_altitude>0</min_altitude>
      <max_altitude>5</max_altitude>
    </level>
    <!-- more levels -->
  </levels>
  <gpsmarkers>
    <gpsmarker>
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      <svgid>0</svgid>
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      <y-pos>283.233401527971</y-pos>
      <latitude>53.62841</latitude>
      <longitude>10.002896</longitude>
    </gpsmarker>
    <!-- more gpsmarkers -->
  </gpsmarkers>
  <vertices>
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      <svgid>0</svgid>
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      <y-pos>416.4403306772737</y-pos>
      <poi>true</poi>
      <shortDescription>Checkin2</shortDescription>
      <longDescription>Flightline%20Counter</longDescription>
      <borderpoint>
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        <y-pos>407.0685794383655</y-pos>
      </borderpoint>
    </vertex>
  </vertices>
</svgmap-data>
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Android live demo

- Map of Stoneridge Shopping Center® in Pleasanton, CA, USA
- Map source: http://www.simon.com/mall/stoneridge-shoppingcenter/map
Summary

- SvgNaviMap
- Technology to make available maps routable
- Open source
Thank you for your attention