



Mobile Viewers based on SVG^{±geo} und XFormsGI

Thomas Brinkhoff¹, Jürgen Weitkämper²

Institute for Applied Photogrammetry and Geoinformatics (IAPG)
Fachhochschule Oldenburg/Ostfriesland/Wilhelmshaven (University of Applied Sciences)
Ofener Str. 16/19, D-26121 Oldenburg, Germany

¹thomas.brinkhoff@fh-oldenburg.de ²weitkaemper@fh-oldenburg.de
Project Homepage: <http://www.fh-oow.de/institute/iapg/projekte/svgmobil/>

SVG

```
<svg width="120" height="120">
  <g transform="scale(0.5)">
    <line x1="20" y1="20" x2="44" y2="54" style="stroke:red;"/>
    <rect x="60" y="10" width="24" height="34" style="stroke:rgb(0,0,0);"/>
    <text x="0" y="70">TEXT 1</text>
    <ellipse cx="5" cy="55" rx="20" ry="40" class="green"/>
    ....
    <path d="M 5 5 L 20 5 L 10 15 h -15 z
          M 10 10 L 10 15 L 15 15 L 15 10 z"
          style="fill:pink; stroke:teal;"/>
    ....
  </g>
</svg>
```

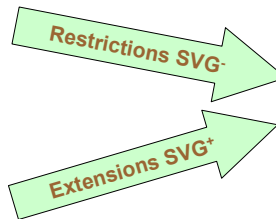


Too complex for mobile applications:

- Overloaded with features for supporting a broad range of applications
- Incomplete implementations
- Slow, even on desktop workstations

"Geo"-features are missing:

- Generalisation
- Loading and unloading of map sections
- Support of geometric interaction and Location Based Services ...



SVG^{±geo}

XForms

- Provides embedding of forms in SVG

Embedded form:

```
<foreignObject width="0" height="0" style="width:100%; height:20px">
  <xform:input
    type="polygon"
    ref="/data"/>
  <xfa:label>Flurstück:</xfa:label>
</foreignObject>
```



Geometric editing:

```
<foreignObject width="0" height="0" style="width:100%; height:20px">
  <xfmgi:input
    type="polygon"
    ref="/data"
    xforms-terminate="startPolygonInput()"
  />
</foreignObject>
```



XFormsGI = XForms +

- Editing of existing geometric entities
- Interactive definition of geometrical entities
- Dynamic integration of location and sensor data

Embedded GPS sensor:

```
<xfmgi:sensor
  type = "gps"
  cursor = "#gps-cursor"
  modal = "#form1"
  ref = "/gps-sg"
  mode = "trackview trackangle"
  state = "running"
/>
```

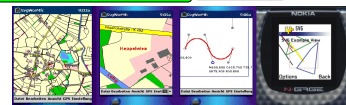
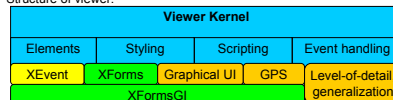


XFormsGI

Prototype:

- Programming language: C++
- Operating systems:
WinCE, PocketPC, WinMobile, WinCE.NET, Win Desktop
experimental: SymbianOS, Linux
- Usage: as dynamic link library or ActiveX-control
- Will be made available as open source

Structure of viewer:



Acknowledgements:

Funding: „Praxisnahe Forschung und Entwicklung an niedersächsischen Fachhochschulen“ (AGIP)
Cooperation: Promegis GmbH, Melle, <http://www.promegis.de>