

# RIMapper

## a Risk Indicator Mapping application as part of a test bed for light-weight, low-cost Spatial Data Infrastructures

### GDI-EMERGE = "GDI-light"

GDI-EMERGE is an internal ITC project to use data and services to build light-weight, low-cost Spatial Data Infrastructures, using Open Standards and Open Source software. It should:

- serve as a general purpose testbed for applied as well as fundamental research activities
- provide researchers and students alike with a proof-of-concept platform for relatively simple, low-cost, yet powerful ways of sharing data amongst various distributed offices and institutions as well as the general public.

It is the place where we can show fellow researchers, consultants and students as well as possible users (such as GIS experts from developing country municipalities) that the things we teach can be made to work quite quickly, in a relatively simple and low-cost setup.

The conceptual set-up for the overall testbed can be seen in figure 1. The main building blocks are:

- a spatial database backend using the OpenGIS (OGIS) Simple Features specifications.
- a set of interoperable applications that interface with the database and with each other.
- web-based interfaces enabling access to the maps and data for both desktop and mobile platforms
- more sophisticated interfaces, for example providing data through an OpenGIS Web Feature Server to GIS clients.

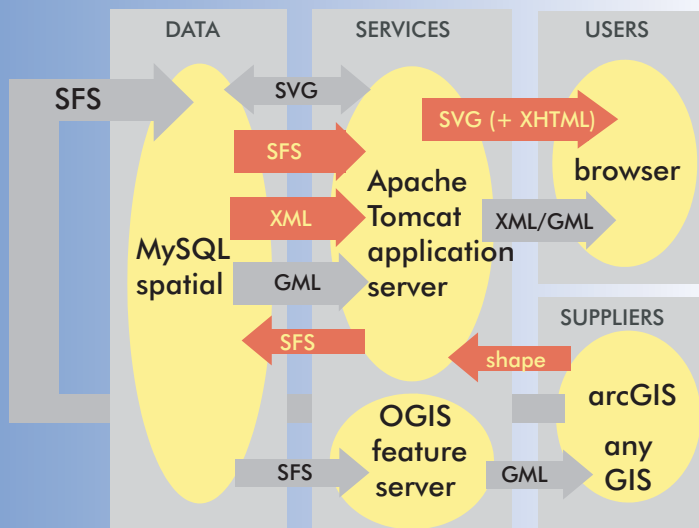
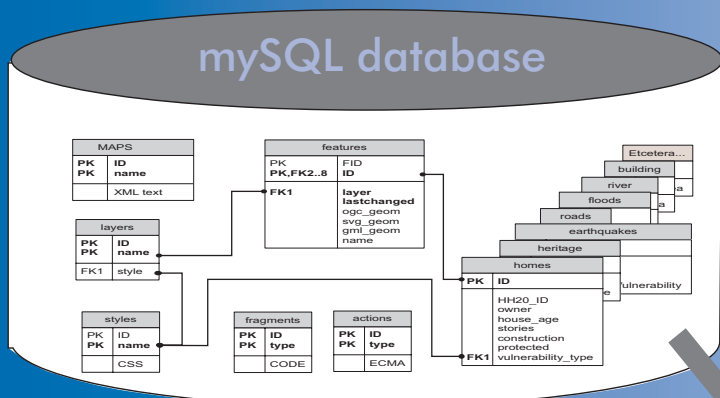


Figure 1: Conceptual set-up  
red arrows are parts of the current RIMapper demo  
[SFS = OpenGIS Simple Features]

### The RIMapper demo

This demo presents a first application of the GDI-EMERGE testbed called RIMapper, that was used to look into the possibilities of generating light-weight, versatile Risk Indicator Maps (RIMs) from online databases. These maps are to be part of an urban risk management system and need to be usable on a wide range of platforms, from the office systems of the local authorities to hand-held devices providing location based services to field personnel. RIMapper uses JSP Tomcat servlets to extract OpenGIS Simple Features stored in MySQL Spatial Extension and delivers these to mobile web clients as interactive SVG maps, based on XML configurations, as shown below.



```

XML-configuration
<?xml version="1.0" encoding="iso-8859-1"?>
<!DOCTYPE RIM PUBLIC "" //RIMapper/XML/RIM.dtd>
<RIM TYPE="SVG_STANDALONE" DB="rimapper" UN="rimapper" PW="svgrulez">
  <HEADER>
    <FRAGMENT DBID="default" NAME="defSvgroot" TYPE="svg_root"/>
  </HEADER>
  <STYLES>
    <STYLE DBID="default" NAME="defPoint" TYPE="CSS"/>
    <STYLE DBID="default" NAME="earthquakesEQ100" TYPE="CSS"/>
    <STYLE DBID="default" NAME="earthquakesEQ200" TYPE="CSS"/>
    <STYLE DBID="default" NAME="earthquakesEQ300" TYPE="CSS"/>
    <STYLE DBID="default" NAME="earthquakesEQ400" TYPE="CSS"/>
    <STYLE DBID="default" NAME="defArea" TYPE="CSS"/>
  </STYLES>
  <FRAGMENT DBID="default" NAME="defInit" TYPE="ECHASCRIPT"/>
  <FRAGMENT DBID="default" NAME="showRIMData" TYPE="ECHASCRIPT"/>
  </HEADER>
  <LAYERS>
    <LAYER DBID="default" NAME="earthquakes" STYLETYPE="
      Choroplethic" STYLE="EQID" ATTRIBS="
        area,earthquakevulnerability">
      <ACTION TYPE="simple" NAME="showRIMData" SCOPE="Feature" EVENT="
        onclick" PARAMS="evt, rim, 'area'"/>
    </LAYER>
  </LAYERS>
</RIM>
    
```

CLASS  
makeSVG

SERVLET  
XML2SVG

CLASS  
parseXML



<http://kartoweb.itc.nl/RIMapper>