

RIMapper

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



GDI-Emerge

GDI-EMERGE is an internal ITC project on using data and services to build light-weight, low-cost GeoData 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 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.

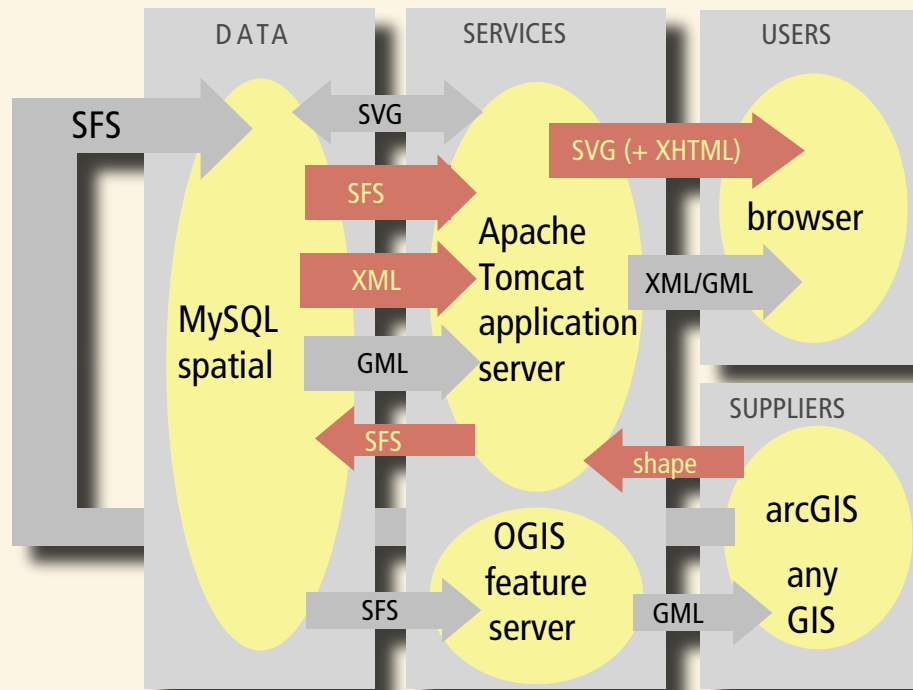
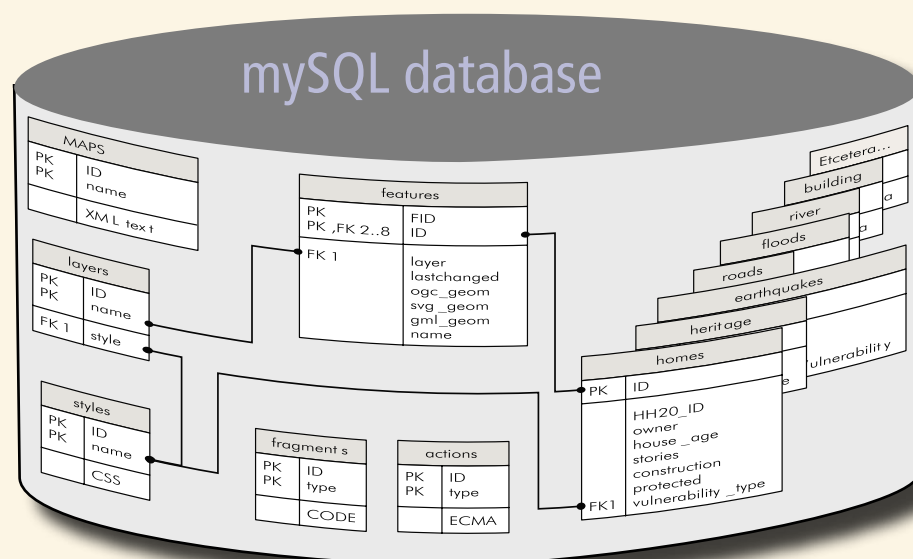


Figure 1: conceptual set-up of GDI-EMERGE. Red arrows are implemented in the RIMapper demo, SFS = openGIS Simple Features SQL.

Figure 2: functional diagram of RIMapper.



XML - configuration

```
<?xml version="1.0" encoding="iso-8859-1"?>
<!DOCTYPE RIM PUBLIC "" "RIMapper/XML/RIM.dtd">
<RIM TYPE="SVG_STANDALONE" DB="rimapper" UN="un" PW="pw">
<HEADER>
  <FRAGMENT DBID="default" NAME="root" TYPE="SVG_ROOT"/>
  <STYLES>
    <STYLE DBID="default" NAME="defPoint" TYPE="CSS"/>
    <STYLE DBID="default" NAME="defLine" TYPE="CSS"/>
    <STYLE DBID="default" NAME="defArea" TYPE="CSS"/>
  </STYLES>
  <FRAGMENT DBID="default" NAME="init" TYPE="ECMAScript"/>
  <FRAGMENT DBID="default" NAME="show" TYPE="ECMAScript"/>
</HEADER>
<LAYERS>
  <LAYER DBID="default" NAME="ward" STYLETYPE="single"
    STYLE="defLine" />
  <LAYER DBID="default" NAME="river" STYLETYPE="single"
    STYLE="defArea" />
    <ACTION TYPE="simple" NAME="showRIM" SCOPE="feature"
      EVENT="onclick" PARAMS="evt, 'id'"/>
  </LAYER>
  <LAYER DBID="default" NAME="roads" STYLETYPE="single"
    STYLE="defArea" ATTRIBS="type" />
  <LAYER DBID="default" NAME="build" STYLETYPE="single"
    STYLE="defArea" />
</LAYERS>
<FOOTER>
</RIM>
```



Conceptual setup

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

- a spatial database using the Open GIS Simple Features SQL specifications;
- a set of interoperable applications that interface with the database and with each other;
- simple web-based clients enabling access to the maps and data;
- more sophisticated interfaces, eg. providing data through an OpenGIS Web Feature Server.

Out of this total system, the RIMapper demo implements the parts shown in red arrows in figure 1.

The RIMapper demo

This demo presents a first application of the GDI-EMERGE testbed, called RIMapper. It was used to test the possibilities of generating light-weight, versatile Risk Indicator Maps (RIMs) from spatial databases. These maps need to be usable on a wide range of platforms, from the office systems of the local authorities to hand-held devices of field personnel. As seen in figure 2, RIMapper uses a Java server application to extract OpenGIS Simple Features stored in MySQL's spatial extension and delivers these to (mobile) web clients as interactive SVG maps, based on XML configuration files.

For more information:

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Scalable Vector Graphics (SVG),
XML,
Java Server Technology.

For more information:

<http://kartoweb.itc.nl/RIMapper>
Köbben, B. (2004): RIMapper - a test bed for online Risk Indicator Maps using data-driven SVG visualisation. In: G. Gartner (ed.) LBS and TeleCartography (Geowissenschaftliche Mitteilungen, Heft 66). Wien: Institute of Cartography and Geo-Media Techniques & ICA, pp. 189-195.)

