Migrating Desktop GIS to Open Source in Munich

Introduction

Since the late 1990's, the Department of Health and Environment, City of Munich, publishes interactive maps on the internet covering different topics regarding environmental information and health information. To implement this digital „Environmental Atlas“ [1], solely Open Source Software (among them UMN MapServer, Perl, Apache) is used. Currently, ESRI's ArcView 3.2 is used as the Desktop GIS application to create and edit geodata, assign symbology, layout maps and export them to the mapserver application. However, ArcView 3.2 is going to be replaced soon by an Open Source alternative – by gvSIG.

Migrating towards Open Source Software in Munich – the LiMux project

In 2003, Munich's City Council decided to migrate the City administration's desktop Computers to Linux. This project is called LiMux – the IT Evolution (LiMux = Linux for Munich). The decision affects the GIS-related work at the Department since the currently used GIS software does not run under the new operating system Linux. Therefore, the Department had to decide whether to stick to proprietary software and use it via server sided software or switch to an Open Source Solution. As Open Source Software had already successfully been used for publishing maps, the idea of utilizing Open Source Software for Desktop map creation was obvious. Therefore, different FOSS GIS solutions were intensively tested from 2005 on. In 2007, the Department decided to select gvSIG as the replacement for ArcView 3.2.

Testing gvSIG

Testing gvSIG in detail clearly showed the strenghts of this application like the ability to easily connect to geospatial databases (Oracle Spatial via geoBD extension), good drawing tools and smooth layout functions. Also, developing speed of gvSIG is quite high. However, some issues which need to be fixed before gvSIG can be used in a productive mode. Among others, the following issues could be identified:

- Special tools for graphical editing like split and merge line/polygon features during digitizing are missing
- symbology for vector symbols not sufficient
- Problems with printing maps in higher quality and no sufficient export format available
- MapServer of the Department needs customized mapfile (mapfile export of gvSIG's publish extension is fine, but some things are missing)
- While many standard geoprocessing functions are full-grown in gvSIG, some more special functions are missing. Many extensions in ArcView help to solve GIS-problems, but creating scripts for gvSIG is nearly impossible due to missing documentation in English.

Fortunately, some of these issues will be fixed in the new gvSIG 2.0.

Supporting the Development

We are convinced that it is worth and necessary to support the project gvSIG in order to benefit from it. Therefore, staff members

- are testing gvSIG intensively and writing suggestions and bug reports to the community via the international mailing list
- participate in extending the german translation of the application and the user manual

Additionally, the Department contracted the development of some important tools (regarding labelling and digitizing) which will be added to the next release of gvSIG.

Contact

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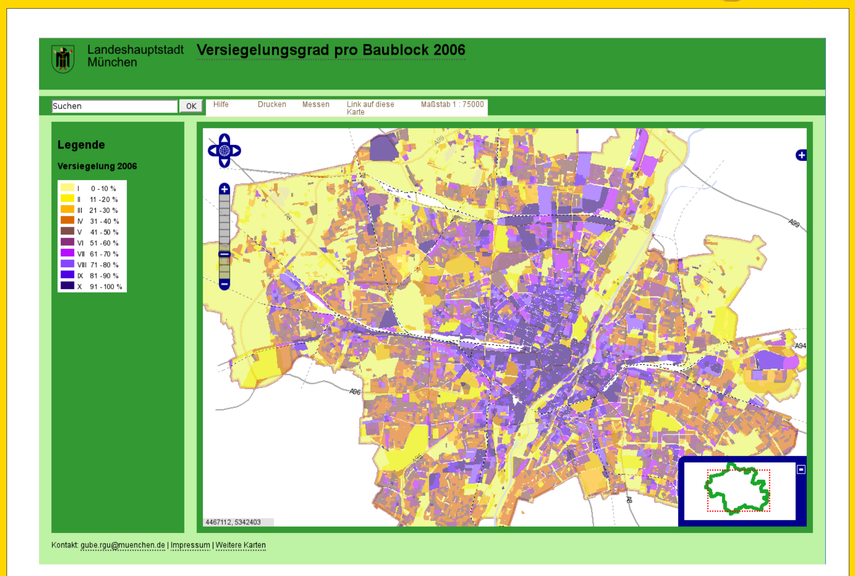
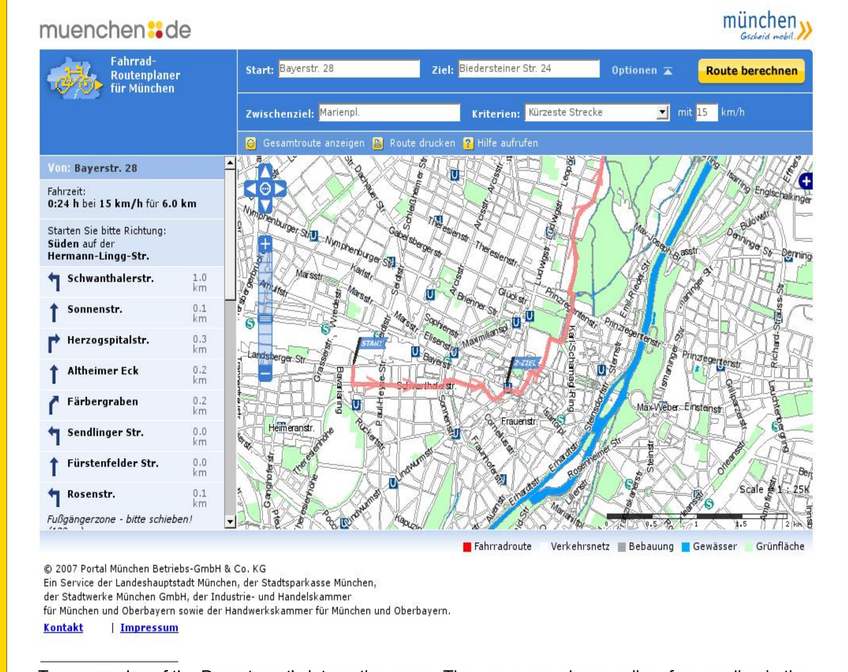
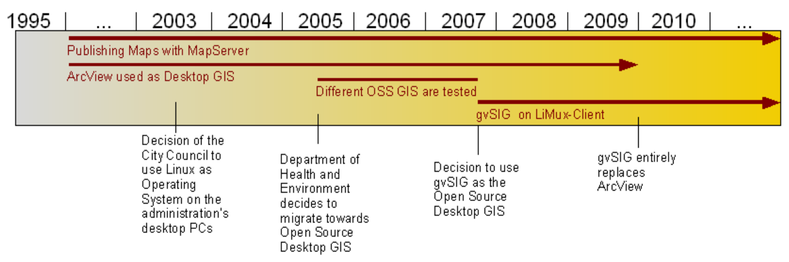
References

[1] www.muenchen.de/umweltatlas
[2] http://radl-routing.portal.muenchen.de/cgi-bin/Radlrouting
[3] http://maps.muenchen.de/cgi-bin/maps.cgi/versiegelung_pro_baublock_2006
[4] www.openlayers.org

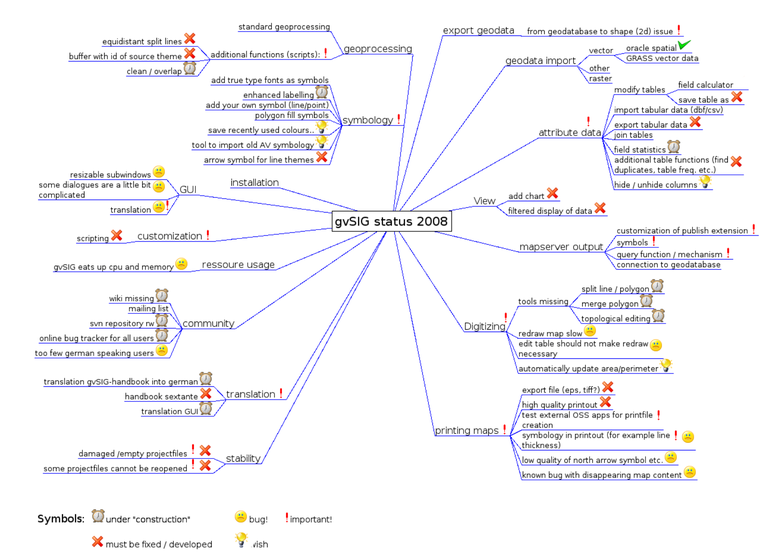




Two examples of the Department's interactive maps: The upper one shows soil surface sealing in the City area [3]; the lower one is a screenshot of the Bicycle Routing System for Munich [2]. Openlayers [4] is used to provide user-friendly navigation within the map.



„Road map“ for the migration of Desktop GIS in the Department of Health and Environment. It is foreseen to finalize the migration process by the end of 2009.



Status of gvSIG from the Department's point of view. Some core aspects like printing, mapfile generation or scripting need to be improved. Improvements implemented in the next version (2.0) are not taken into consideration.

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