

'Integrating OSGeo tools in Mozilla platform' : Application examples and future prospects



OSGeo.jp mini-event
2009 October, Friday 18th

Dr.Nicolas BOZON

Comunication Manager at 3LIZ

Invited Professor at OCU

Personal presentation

Educational background:

- Undergraduate studies in geography and environmental sciences
- GIS Master degree with Webmapping major
- Phd of Applied Mathematics / GIS at Cemagref

Present :

- Invited professor at Osaka City University
- Communication manager at 3LIZ

3LIZ Presentation

- French Open Source GIS startup created in 2006
- Work with OSGeo and Mozilla technologies
- Geospatial software projects
- Webmapping and web development projects

The logo for 3LIZ, featuring the number '3' in red and the letters 'LIZ' in black, all in a bold, sans-serif font.

<http://www.3liz.com>

3LIZ Developement Toolkit

- MozMap ToolKit to be release open source soon
 - Based on Mozilla XULRunner
<https://developer.mozilla.org/en/XULRunner>
 - C++/XPCOM components developed to handle GDAL/OGR directly in Mozilla
 - Include OpenLayers 2.8 and any other web API
- > MozMap TK provides solutions to develop both desktop GIS applications and Webmapping applications

CanaWeb project (1)

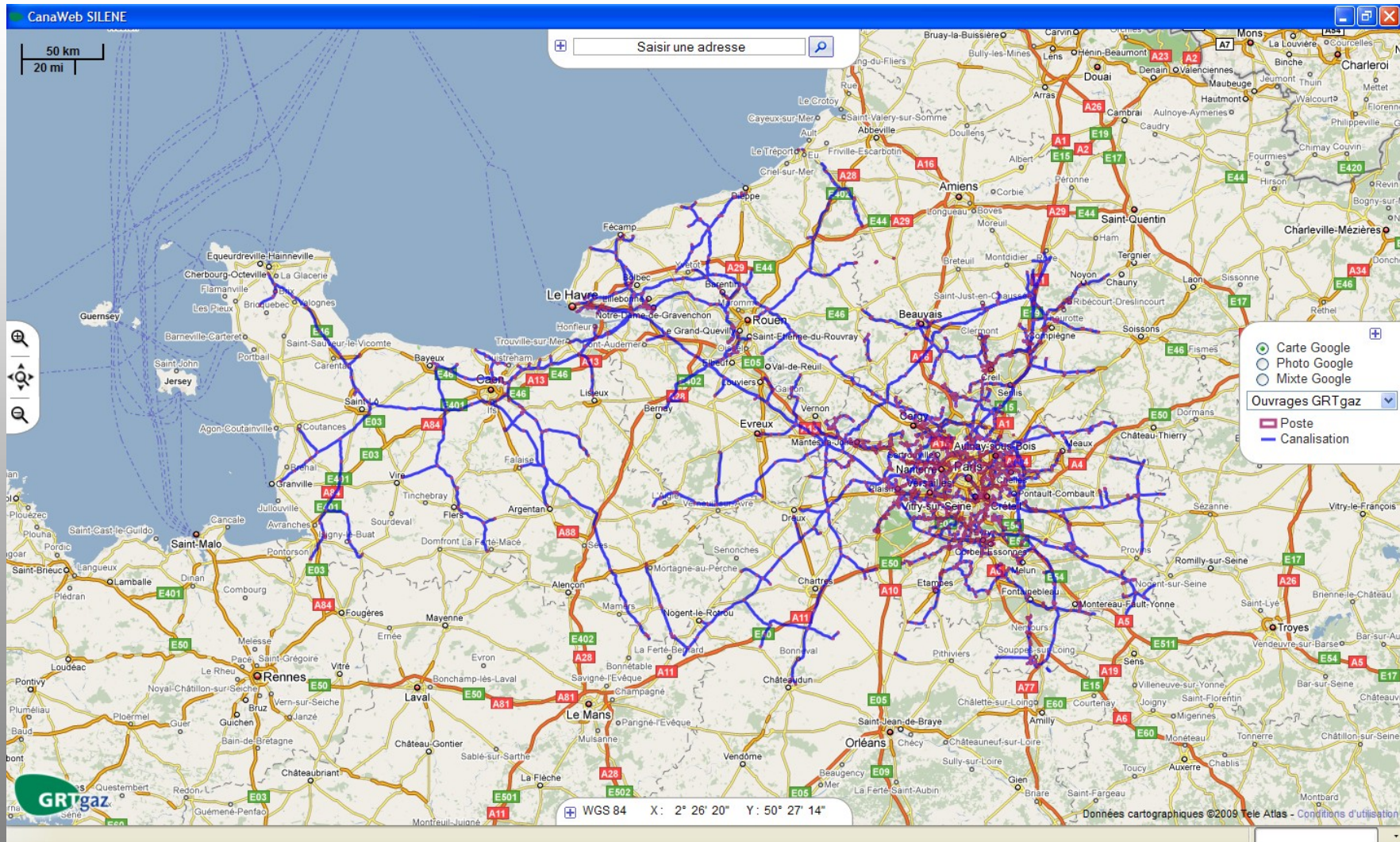
- An hybrid GIS application to best manage the French gaz utility network
 - Clients needed a simple GIS prototype to be easily used by non GIS experts
 - NO possibility for using server-side libraries (i.e MapServer...)
 - The prototype must be bootable form USB devices.
- > Many development constraints were solved by using the MozMap TK solution.

CanaWeb project (2)

- Desktop software including OpenLayers, Proj4js and ExtJS
- Google Maps Layers used as base layers
- Gaz pipes network data used as shapefiles (.shp) rendered on top of Google layers
- Other data used in .shp or in pre-tiled layers
- Google Geocoder used for providing a 'get direction' functionality
- Proj4js used to handle several map projections
- ExtJS used to provide dynamic elements

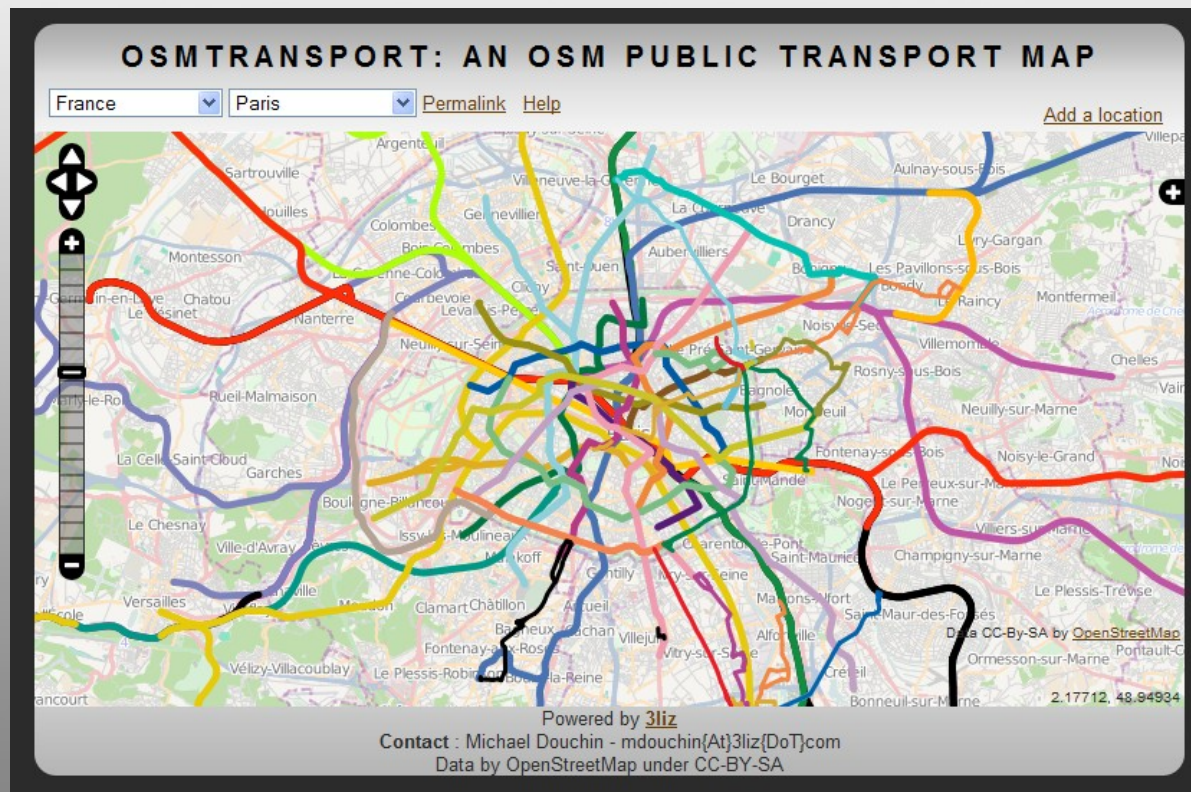
CanaWeb project (3)

- CanaWeb live demonstration



OSMTransport project

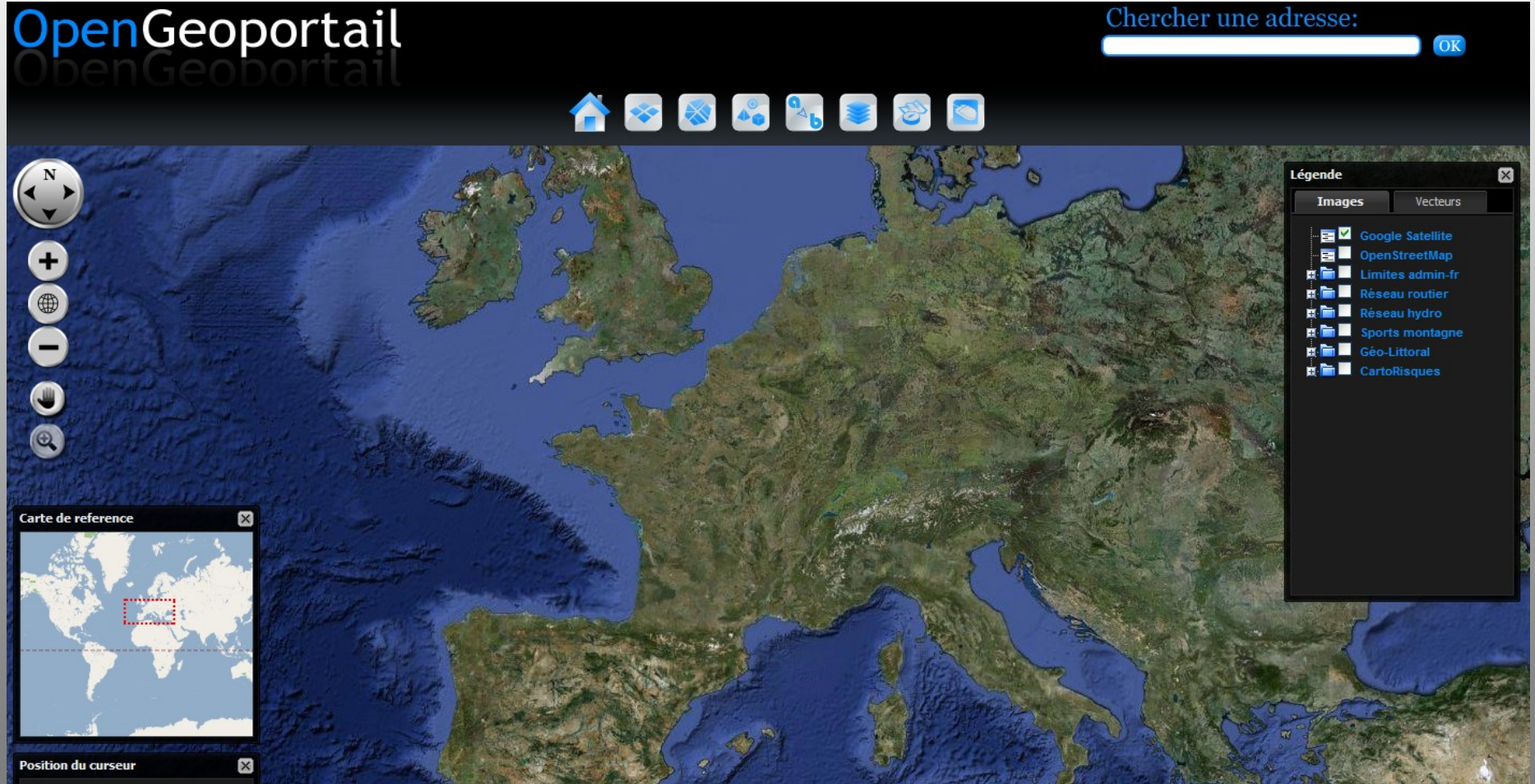
- An OpenLayers application dedicated to map the public transport data committed into the OpenStreetMap database
- Use OpenLayers + PostGIS + OpenStreetMap API



<http://3liz.fr/public/osmtransport/>

OpenGeoportail project

- An OpenLayers / MapFish application dedicated to list the available french WMS data layers
- Use OpenLayers + MapFish + ExtJS



Drift-X: A GIS based pesticide atmospheric dispersion model



Context:

- Massive use of pesticide for wine-growing in France
- Pollution and Health problems due to pesticide



Research project at Cemagref (phD):

- Modelisation of the atmospheric dispersion of pesticide
- Simplified model working with wind measurements and DEM layer
- Desktop GIS tool to predict the downwind concentrations

Quantum GIS python plugin for Drift-X

Goals:

- Manage the Drift-X model inputs

 - Setup the extent for calculation

 - DEM Layer to use for calculation

 - Wind points measurement creation

 - Other parameters from the tractor

- Map the Drift-X outputs

 - Raster pesticide cloud creation

 - Vector pesticide cloud creation

 - Use od GRASS to proceed to simple risks analysis

Quantum GIS python plugin for Drift-X Live demo

The image shows a screenshot of the Quantum GIS 1.0.2-Kore interface. The main window displays a map of Europe with a color-coded background representing a simulation. A purple checkmark is visible in the top left corner of the map area, with the text "900 degrés" next to it. The left sidebar shows a legend with several layers: driftx1, sprayer, driftx0, sprayer, uc_etudiees, and m10. A dialog box titled "DRIFT-X PLUGIN" is open in the foreground, featuring a green and yellow logo with a 'D'. The dialog has tabs for "Domain", "Terrain", "Wind", "Sprayer", and "Output". The "Domain" tab is active, showing a "Domain extent for calculation" section with a "Get Extent" button and four input fields for "X min", "Y max", "X max", and "Y min". At the bottom of the dialog, there is a progress bar at "0%" and an "OK" button. The bottom status bar of the application shows the text "Il y a une mise à jour d'extension disponible" and various system icons. The Windows taskbar at the bottom includes the Start button and several open applications: osgeojp, presentation - Ope..., zoo-project - Mozill..., OSGeo4W, Quantum GIS - 1.0..., Dialog, and Adobe Photoshop. The system clock shows the time as 01:59.

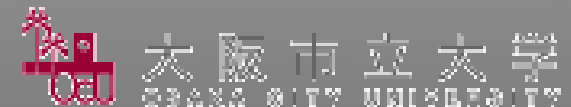
Drift-X WPS Project

Goals:

- Use the Drift-X model with WebGIS
- Perform online simulations using the new ZOO open WPS platform (Web Processing Service)

Research project:

- Drift-X WPS Research Collaboration between Cemagref and OCU
- ZOO Project initiated by 3LIZ, GeoLabs and OCU



ZOO WPS Open Platform

Presentation:

ZOO is based on a Service Oriented Architecture (SOA) and a modular approach. It offers geoprocessing modules and supports numerous vector, raster and database formats. Any geoprocessing module can be coded in C, Python or PHP and directly added to the ZOO

ZOO Kernel + GDAL/OGR + Any Dynamic library !

ZOO

Open WPS Platform



Thank you for your time !

Dr.BOZON

nicolas.bozon@gmail.com

nbozon@3liz.com