MapFish

A WebGIS 2.0 Framework: toolkit to build rich client WebGIS
Camptocamp, a Franco-Swiss company

- A Franco-Swiss company employing 42 professionals
  - Switzerland, Lausanne: 26 persons
  - France, Chambéry and Toulouse: 16 persons
- A sustained growth: between 50% and 70% since 2004
Camptocamp is an Open Source editor and integrator for software

- Initiated by Camptocamp: CartoWeb, MapFish and Spatial Data Integrator (SDI)
- Initiated by well-respected communities (OSGeo): GeoTools, GeoServer, Udig, GeoNetwork, MapServer, PostGIS, Open Layers, GeoExt, Ext

Camptocamp helps clients move forward in every part of their businesses with the latest Open Source applications and technologies
Camptocamp's strategic activity domains

- **Geospatial Solutions**
  - Web mapping
  - GIS
  - Spatial Data Infrastructures
  - Web Services
  - OGC Web Services

- **Business Solutions**
  - ERP
  - Business Intelligence
  - ETL

- **Infrastructure Solutions**
  - LINUX
  - HTTP, Apache
  - Load balancing, replication
  - Cloud computing
  - Systems deployment
  - VoIP

- CONSULTING AND R&D (official accreditation)
- IMPLEMENTATION
- OPEN SOURCE SUPPORT
- TRAINING (official accreditation)
MapFish is ...

- **Open Source** (GPL & LGPL)
- **A WebGIS development toolkit**
- **Not an application but a Framework**
- Based on:
  - OpenLayers JavaScript library
  - ExtJS JavaScript library
  - MapFish Server is responsible for server side treatments and composed of several modules which can be implemented in several languages:
    - Pylons Python
    - Ruby on Rails Ruby
    - Symfony PHP
    - Java
    - Other libraries (SQLAlchemy, Shapely, iText, ...)
  

MapFish is also ...

- Using **extensively OpenLayers** on the client side
  - MapFish developers are OpenLayers developers
  - New OpenLayers version ⟹ New MapFish version

- **OGC-compliant**
  - query components
  - editing components
  - ...

- **Very modular**
  - The Client part and the Server part are uncoupled
  - MapFish defines a RESTful protocol for creating, reading, updating and deleting features
  - The representation format used is GeoJSON (compatible WFS format)
Development status

- **Version 1.1** – January 2009 (3 to 4 yearly releases)
- MapFish is subject to the OSGEO incubation process
  ✔ pending resources: mentor and code reviewers
MapFish provides ...

- A WebGIS development toolkit
- GIS typical functionalities
  - ✔ Layer Tree
  - ✔ Map queries
  - ✔ Search
  - ✔ Editing
  - ✔ ...
- Advanced functionalities (available in version 1.1)
  - ✔ Offline support – based on Gears
  - ✔ PDF printing – features printed as vectors, map rotations, scale bars, legends, tables, notes, templates
Global Architecture

- **MapFish Client**
  - Javascript components
    - Core components
    - Graphical components (Ext)
    - Open Layers
  - Interaction with Web Services (developed with MapFish Server)

- **MapFish Server**
  - Development framework
  - Component libraries

MapFish Client components:
- ExtJS
- OpenLayers

MapFish Server components:
- Python
- PHP
- Java

Interaction via HTTP and JSON.
Server Architecture (for Python)
Client Architecture

MapFish Client

MapFish widgets
- Javascript / HTML
- MapComponent
- toolbar
- tree
- geostat
- search
- routing
- ...

MapFish core
- Javascript
- geostat
- search
- routing

Ext JS
- (widgets, layout, panels, stores...)

OpenLayers

MapFish Server

HTTP

JSON
Différences between OL & MapFish

- OpenLayers
  - JavaScript library
  - Client side only
  - Functions closely connected to the map
  - Not a development framework
  - Generic, but off specific business applications needs

- MapFish
  - Supports OpenLayers on the client side
  - Client side and server side
  - WebGIS application development framework
  - Map connected functions
  - JavaScript graphical components (based on Ext)
  - Functions oriented towards business applications
Example: Pop-up window / Block

MapFish example
This example shows how to use the MapComponent class to integrate a OL map into a window layout.

Map in a Complex Layout
File  Edit  View  Web  Go  Bookmarks  Tabs  Help

Choose a continent in the list
Select a value...

http://demo.mapfish.org/mapfishsample/1.0/examples/map/window.html#
Example: Pop-up window / Search
Example: Printing
Example: Editing

MapFish, FeatureList example

<table>
<thead>
<tr>
<th>Name</th>
<th>Geometry type</th>
<th>Surface [km²]</th>
<th>Length [km]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 1</td>
<td>Polygon</td>
<td>1650473</td>
<td>5219</td>
</tr>
<tr>
<td>Zone 2</td>
<td>Polygon</td>
<td>1833858</td>
<td>6653</td>
</tr>
<tr>
<td>Et ma 3ème zone</td>
<td>Polygon</td>
<td>1916666</td>
<td>6666</td>
</tr>
</tbody>
</table>
Example: Geostatistics
Example: Multimodal Routing

Démonstrateur POTIMART
Example: Tracking

<table>
<thead>
<tr>
<th>Date</th>
<th>Message</th>
<th>Unit</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 Oct 2008 05:17:44</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
<tr>
<td>07 Oct 2008 05:17:48</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
<tr>
<td>07 Oct 2008 05:17:52</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
<tr>
<td>07 Oct 2008 05:17:56</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
<tr>
<td>07 Oct 2008 05:18:00</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
<tr>
<td>07 Oct 2008 05:18:04</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
<tr>
<td>07 Oct 2008 05:18:08</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
<td>demo1</td>
<td>Geo-fencing Alarm: ul with id: demo1 is in the geofencing area: 2</td>
</tr>
</tbody>
</table>
Example: 2D / 3D
Case study: Caisse des dépôts

- http://veille-territoriale.servicepubliclocal.net/cdc/ (admin/ admin)
Case study: IRSN

http://sws.irsn.fr admin/1e3d1ad5!
Case study: UNHCR

- [http://prod-unhcr.camptocamp.net/map.html?offline=true](http://prod-unhcr.camptocamp.net/map.html?offline=true)
Administration interface
MapFish (next) ...

- **Administration interface**
  - An administration application to automatically create MapFish applications
  - 3 main components: Data Manager / MapFile Manager / MapFish Manager

- Better integration between OpenLayers and ExtJS: led to the development of the **GeoExt project**

- Development of the **server component in Java**

- Orientation « **Spatial Data Infrastructure** » (link with the GeoNetwork catalog, data extractor, publication of OGC services)

- What about a **MapFish client in Flash/Flex** based on Open Scales?

- MapFish distributed in **OSGeo4W**

---

Community, community, community ...
MapFish: the community

- Web site: http://www.mapfish.org
- Subversion
- Mailing lists (dev & users)
- IRC chat
- Blog: http://mapfishblog.blogspot.com