gvSIG: Open Source for handling Geospatial Information

Status Report

Towards an Open Organization

Gabriel Carrión Rico
carrion_gab [AT] gva [DOT] es
gvSIG Project Leader
Conselleria de Infraestructuras y Transporte
Generalitat Valenciana

Miguel Montesinos
mmontesinos [AT] prodevelop [DOT] es
gvSIG PSC Member
CTO PRODEVELOP

Agenda

- Project Origin

- What gvSIG provides

- What we are working on

- Project dimension

- Towards an open organization

- **Project Origin**

- What gvSIG provides

- What we are working on

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- **Part of a project:** "Full open systems migration of the Regional Government of Infrastructures and Transport of Generalitat Valenciana".

- Gap Analysis of suitable open source for systems.

- No advanced GIS client → Just do it

- C++ / Java Pilots

- Java, GNU/GPL, INSPIRE, Modular design

- Fast evolution

EU R & D & I Project

- Project Origin

- # **What gvSIG provides**

- What we are working on

- Project dimension

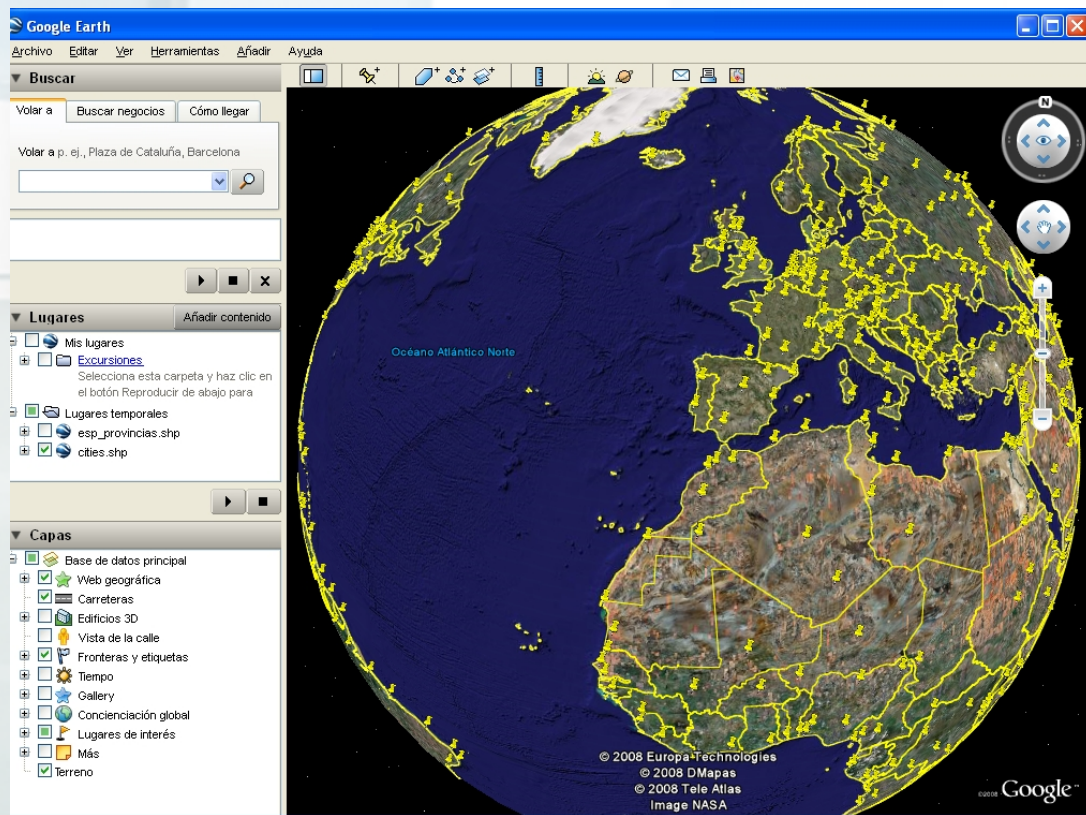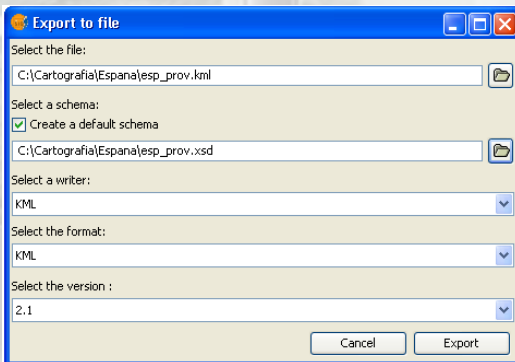- Towards an open organization

What gvSIG does (as of 1.1.2)

- **Vector Formats**
  - Read: SHP, GML, KML, DXF, DGN, DWG.
  - Write: SHP, GML, KML, DXF

- **Raster Formats (**ECW, MrSID, GeoTIFF, others through GDAL)

- **Geodatabases** (PostGIS, Oracle, mySQL)

- **SDI (WMS, WMC, WFS, WCS, CSW, ...)**

- **Reprojection framework**

- **Layouts**

- **Editing**

- **Geoprocessing**

GENERALITAT VALENCIANA   I+D+I
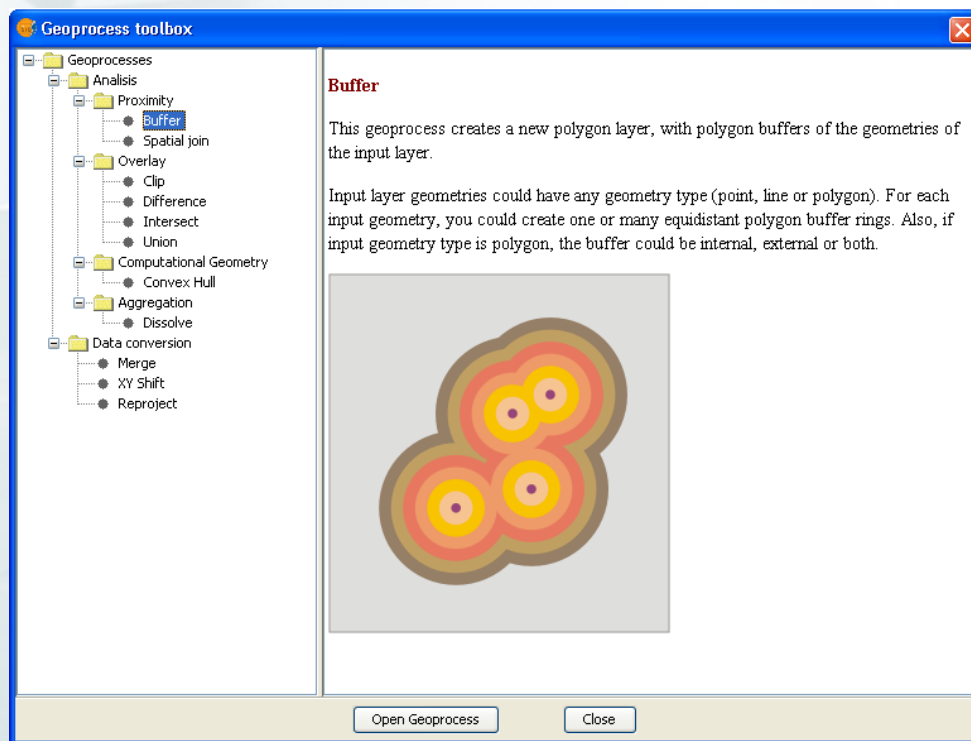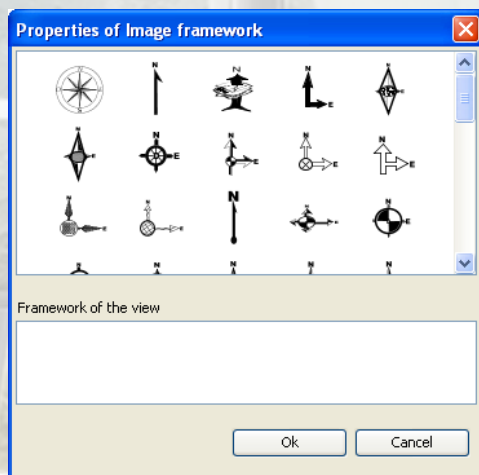
EUROPEAN UNION   INSPIRE. Infrastructure for Spatial Information in Europe   OSGeo   SEXTANTE   OGC™ Member

What's new in gvSIG (as of 1.1.2)

KML 2.1 support

What's new in gvSIG (as of 1.1.2)

- GML 3.1.1
- WFS 1.1.0
- New north symbols
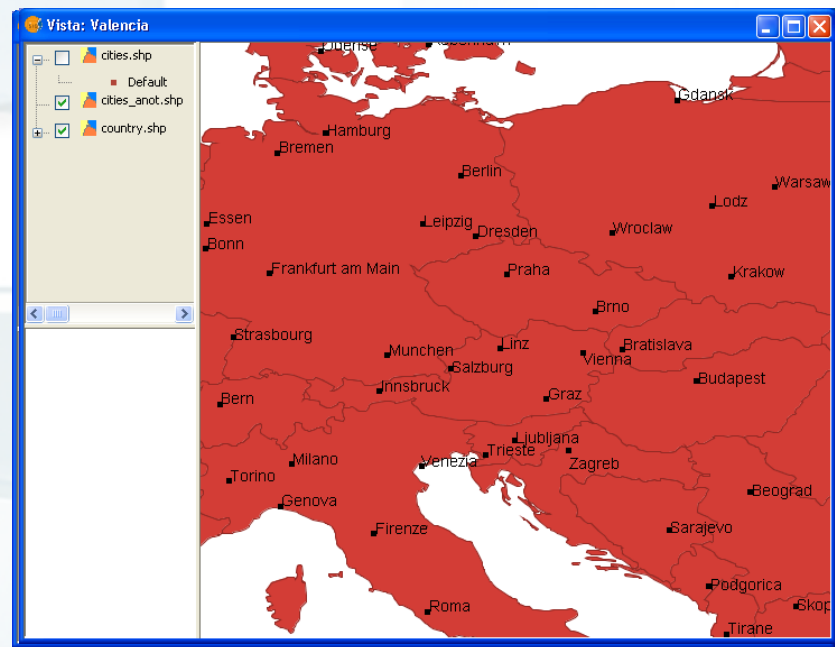- New geoprocesses

- ## Field calculator
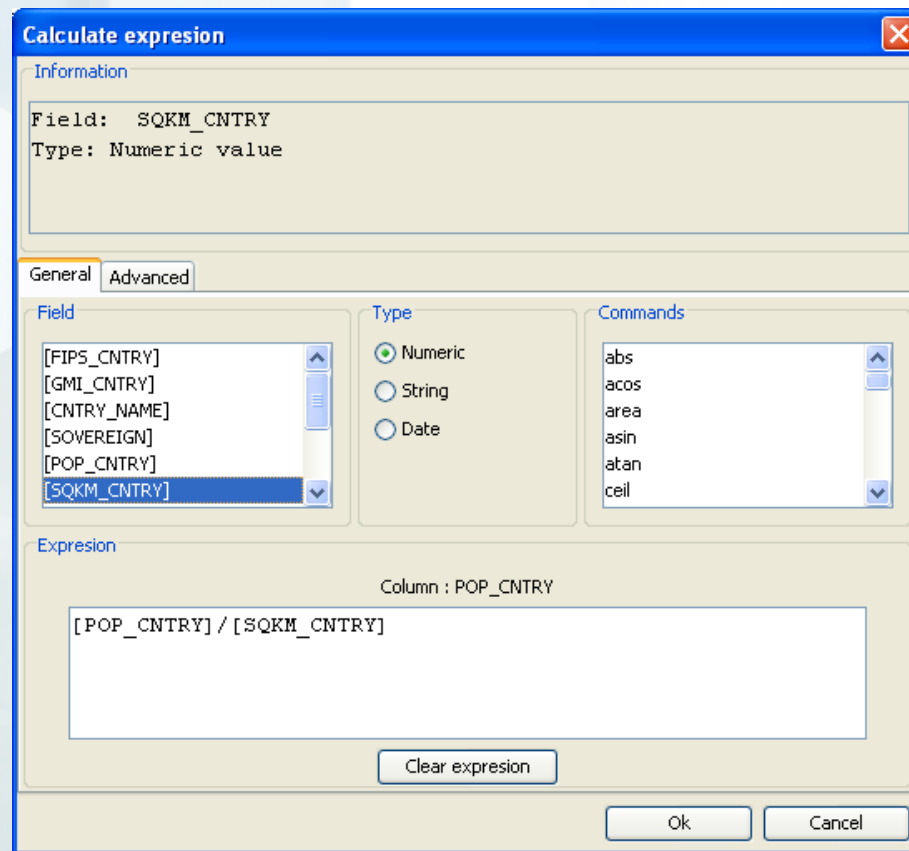
- Export to Annotation
- Annotation Enhancements

What's new in gvSIG (as of 1.1.2)

- ## Network analysis

  - Shortest path
  - Stop points
  - Route Information
  - Topology generation

What's new in gvSIG (as of 1.1.2)

- 3D pilot
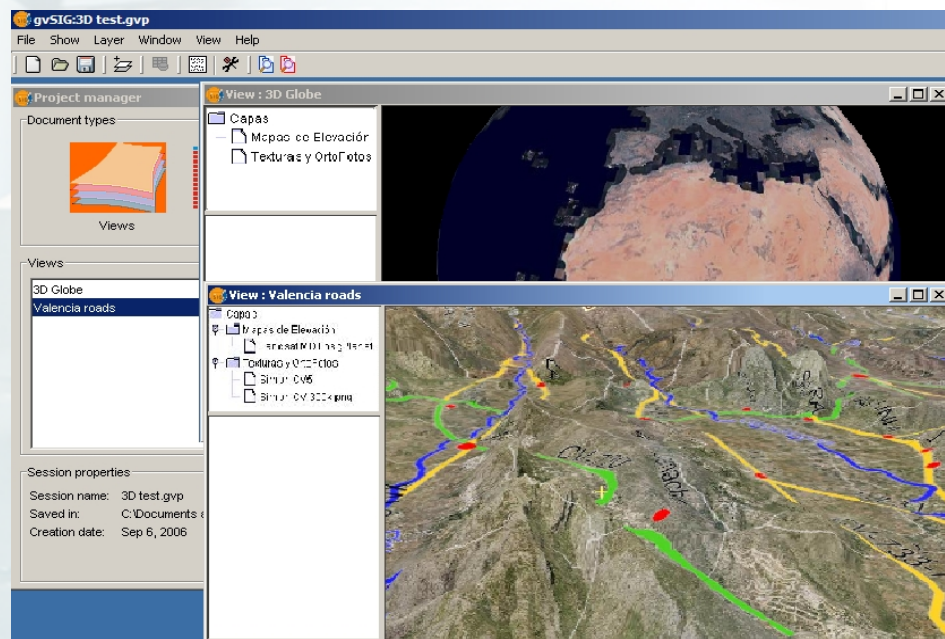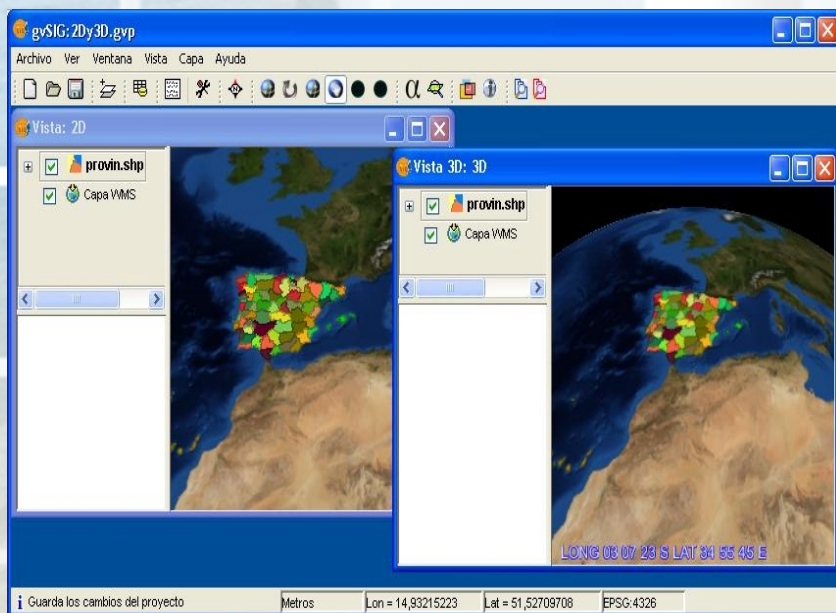
gvSIG Mobile pilot

- SHP, ECW, WMS viewer
- GPS support
- Measurements, attributes info
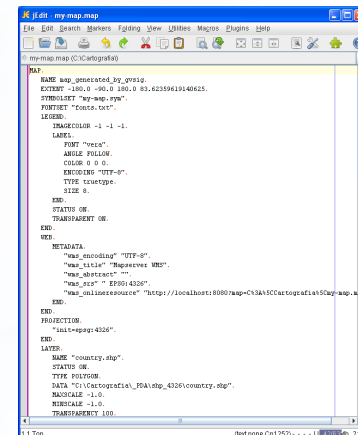- Layer management
- Data exportation from gvSIG

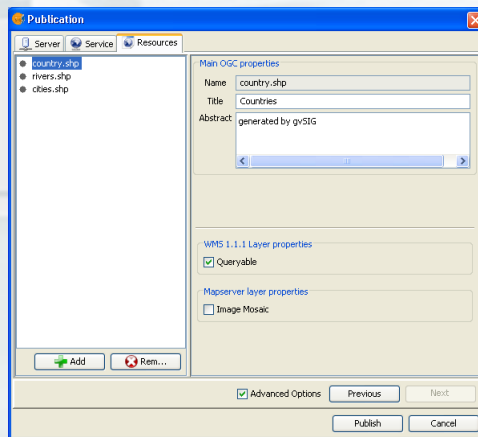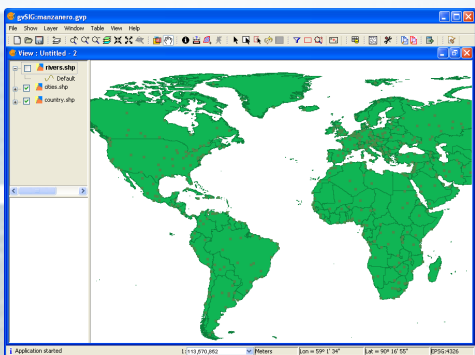# What's new in gvSIG (as of 1.1.2)

- ## Metadata prototype

  - SHP metadata extraction
  - ISO 19115 metadata editor
  - Publish to GeoNetwork OS

- ## Publishing Extension

- UMN MapServer 5.X : WMS 1.1.0, WFS 1.0.0, WCS 1.0.0
- GeoServer 1.5.4 : WFS 1.0.0

- Project Origin

- What gvSIG provides

- **What we are working on**

- Project dimension

- Towards an open organization

OGC support improvement

- gvSIG supports now:
  - Web Map Service (WMS)
  - Web Feature Service (WFS)
  - Web Coverage Service (WCS)
  - Web Map Context (WMC)
  - Gazetter- Service (ADL, WFS, WFS-G, IDEC)
  - Catalog- Service (Z3950, SRW, CSW/ISO 19115, CSW/ebRIM)
  - Geography Markup Language (GML 1.1.3)
  - Keywhole Markup Language (KML 2.1)
- Under construction
  - Web Feature Service Transactional (WFS-T)
  - Style Layer Descriptor (SLD)

Advanced Symbology (I)
- Symbol Editor
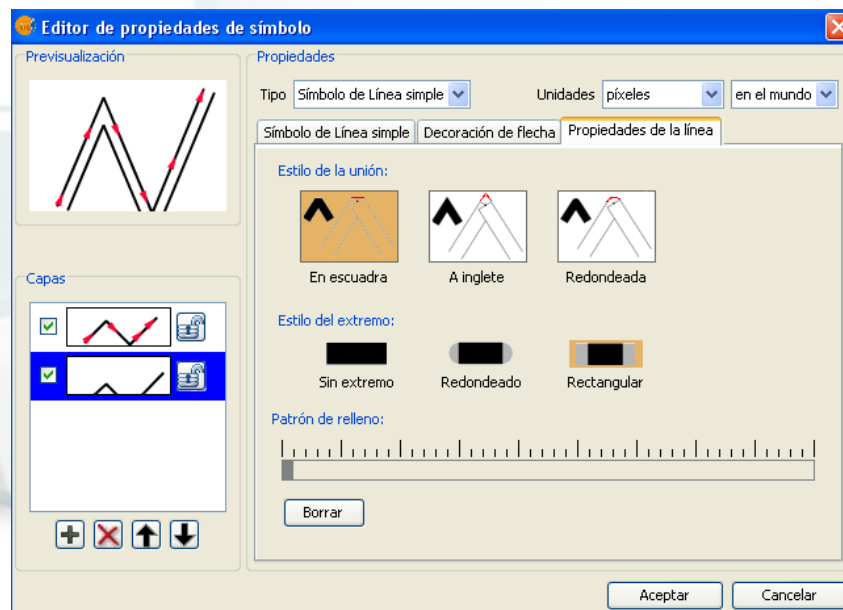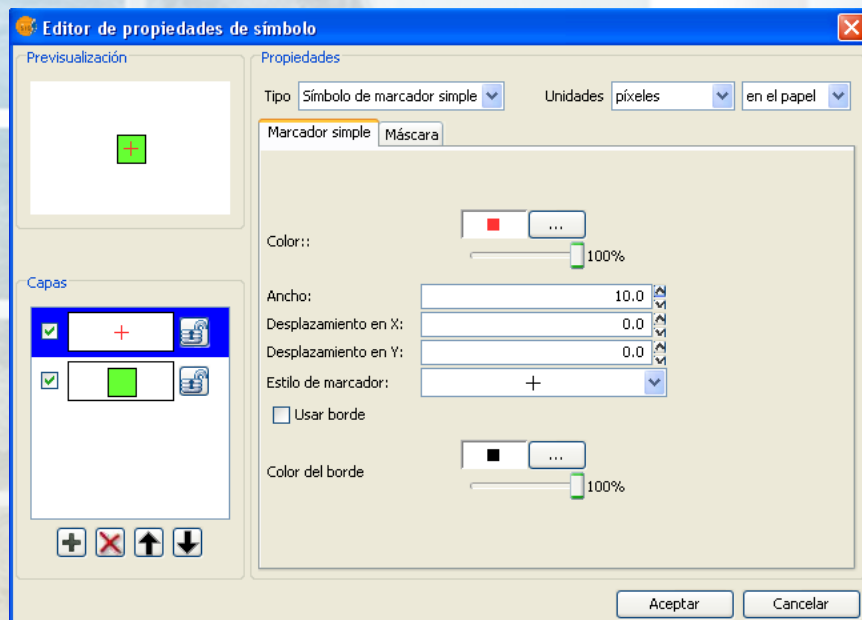
Advanced Symbology (II)

- ### Hierarchy
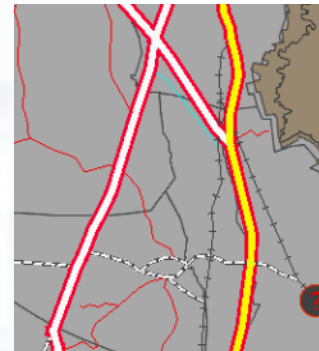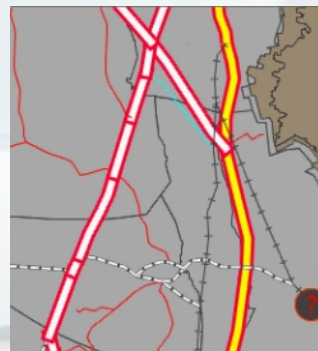
- ### Conflict resolution

Advanced Symbology (III)

- Symbol Gallery
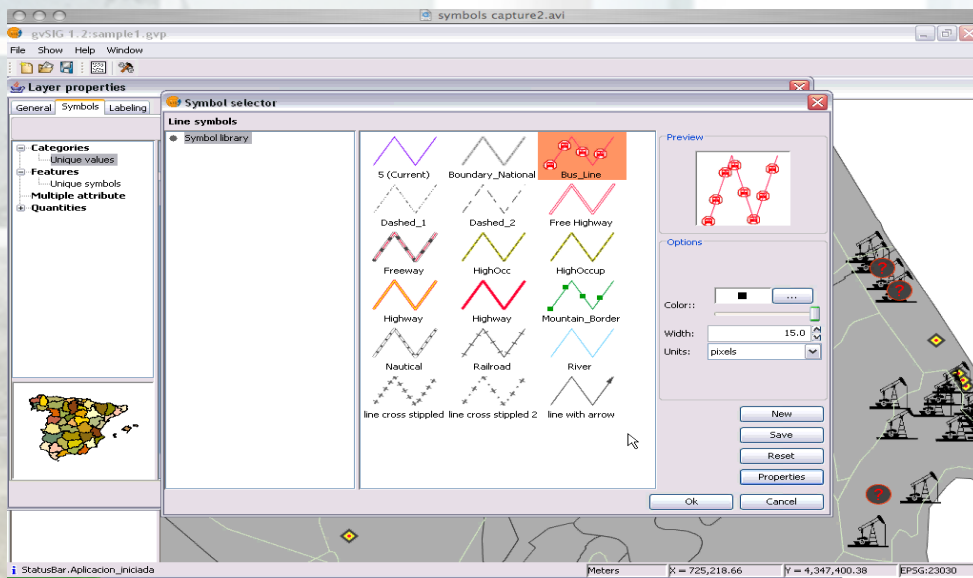
- Graphics
- Adv. Labelling

Raster + Remote Sensing

- Histograms
- Filters
- Clipping
- Classification
- Profiles
- Fussion
- ROI's

- Transformation functions
- Image enhancement
- Formats (Erdars, Ilwis, Envi, HDR, Raw, Idrisis,...)
- Band selection
- Save to Raster
- Geolocating
- ...

Network Analysis

- Travelling Salesman Problem
- Service Area
- Minimum Spanning Tree
- Distance Matrix
- Closest Facility

Topology

- Topology definition, validation and fixing

- Topological editing tools

- Geoprocessing tools

3D

- **2,5 D & 3D**
- **Animations**
- **Navigation**
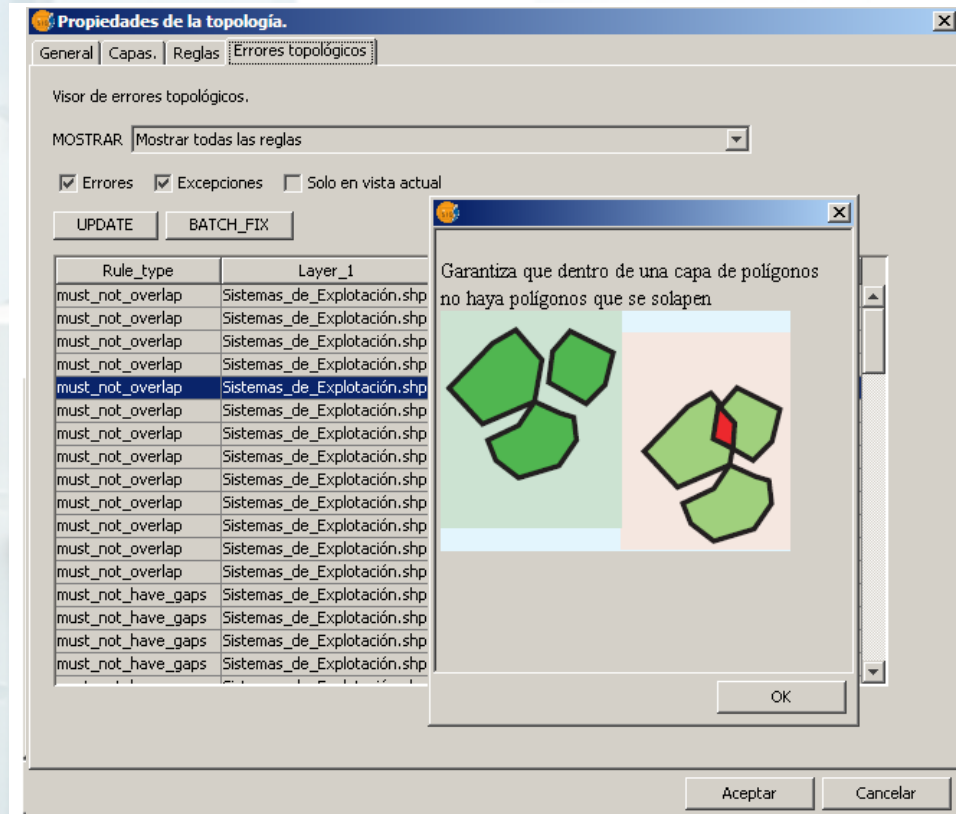- **Time-series on 2D & 3D**
- **TIN – raster integration**
- **Geoprocessing on 3D**
- **3D on layouts**
- **...**
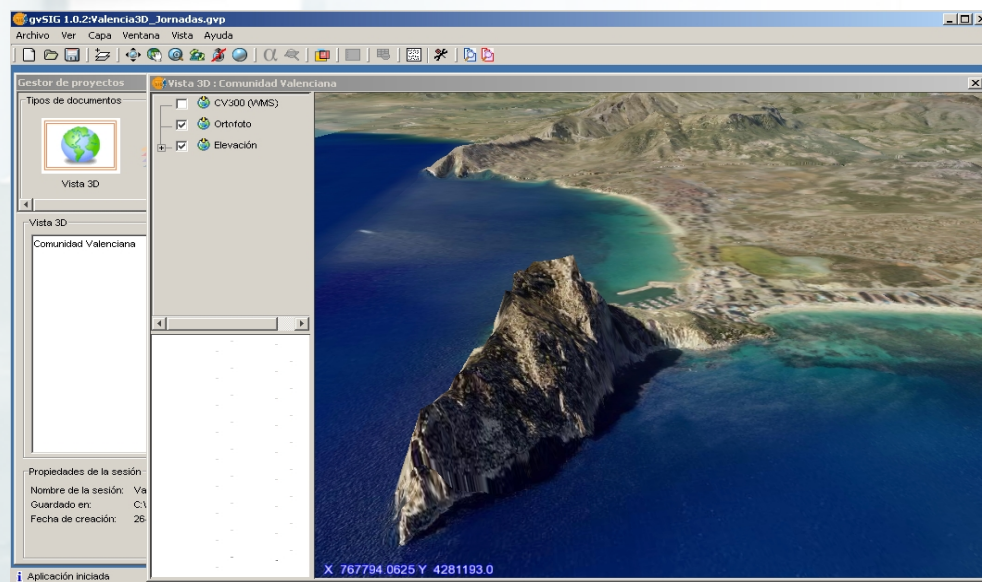
gvSIG Mobile

- Compatibilization of gvSIG core
- GPL Java ME VM support
- Editing
- Custom forms
- More formats (KML, GML, GPX,...)
- libLocation
- Geosynchronization
- More OGC support
- Porting to OpenMoko, Android,...

Topography Tools

- Field survey tools
- Topographic calculus
- DTM's
- Stations
- Corrections

SWE (Sensor Web Enablement)

- SensorML support
- SOS client
- Integration on desktop & mobile
- Animation rendering
- Graphics
- Sensor discovery

More modules

- LIDAR support
- SQL Server driver
- Roads access through WPS
- Codec BXML
- Normalization & Geocodification
- Reports & Graphics integration
- OSM

- Project Origin

- What gvSIG provides

- What we are working on

- **Project dimension**
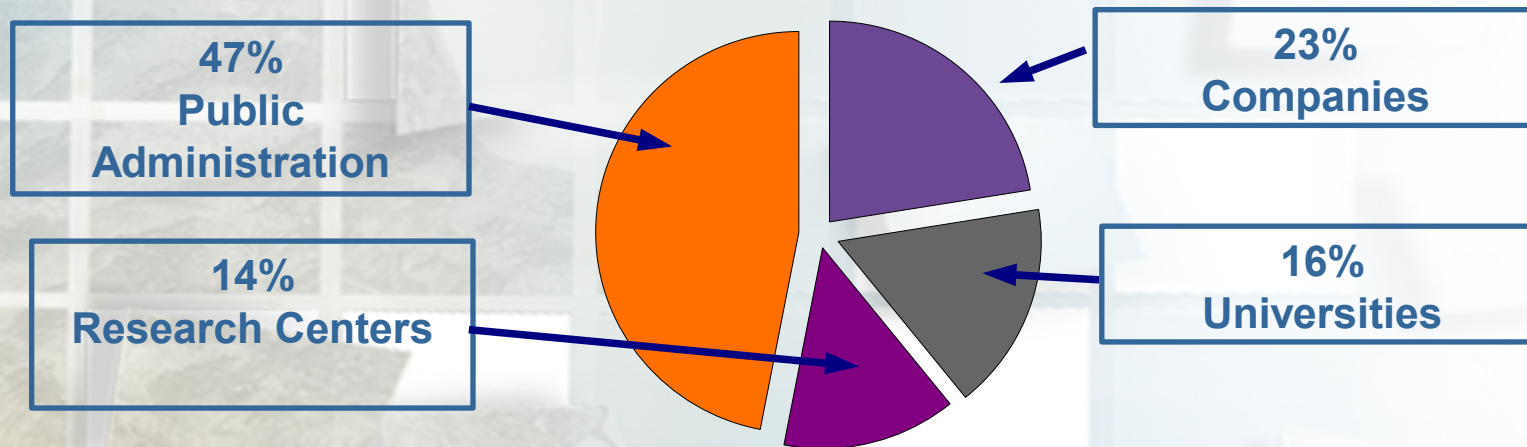
- Towards an open organization

Some figures

- First version: 0.2 (oct-2004)

- Countries with downloads: ~60

- Users in mailing lists: + 2.300

- Active developers: 30-40

- Contributors & Collaborators: ~200

Collaborations

More than 100 public and private organizations, from Spain, Europe and LatinAmerica.

47%
Public Administration

23%
Companies

16%
Universities

14%
Research Centers

Collaborations

- ## Companies
  - Prodevelop (Spain)
  - Iver (Spain)
  - Software colaborativo (Spain)
  - DiSiD (Spain)
  - LogEX (Spain)
  - Dielmo (Spain)
  - Creativa (Venezuela)
  - Alkante (France)
  - Etc.

Collaborations

- ## Research Centers
  - EU-Joint Research Center (Milan-Italy)
  - ITI (UPV-Spain)
  - LISSIT (UV-Spain)
  - IDR (Spain)
  - Ai2 (UPV-Spain)
  - ...

- ## Participation in UNSDI (UN-SDI)

Collaborations

- Universities
  - U. Jaume I (Spain)
  - U. Polytechnic Valencia (Spain)
  - U. Valencia (Spain)
  - U. Laussanne (Switzerland)
  - U. Polytechnic Madrid (Spain)
  - U. California (Santa Barbara)
  - U. Oxford (UK)
  - U. Polytechnic Catalunya (Spain)
  - U. Alicante (Spain)
  - U. Rennes (France)
  - U. Extremadura (Spain)
  - U. Patagonia (Argentina)
  - Etc.

gvSIG conference evolution

600

4th gvSIG Conference

1-5 dec. 2008. Valencia (Spain)

gvSIG Conference
+ OGC Technical Committee Meeting
+ Eclipse Day

- Project Origin

- What gvSIG provides

- What we are working on

- Project Dimension

- **Towards an open organization**

Towards an open organization

- The project is growing. More and more different stakeholders

- The complexity grows

- We need to organize ourselves to enable development of our objectives, dimension and evolution.

How do we organize ourselves?

Open Organization

A project aimed at the creation of an infrastructure for easing the work in a collaborative way, open to any organization willing to collaborate with gvSIG and promote gvSIG.

Put the project in the hands of the community

What tools and actions are we taking for ensuring project quality?

Towards an open organization

- Collaborative Infrastructure
  - http://gvsig.org

Use

libCompatMobile User's Manual — gvSIG - Mozilla Firefox

Archivo Editar Ver Historial Marcadores Herramientas Ayuda

https://gvsig.org/web/docdev/docs/mobile/desarrollo/mobile/arquitectura/libreria-de-compatibilidad-libcompatmobile, | manual network search kubunt

gvSIG — gvSIG | Working documents — gvSIG | Architecture — gvSIG | libCompatMobile User's Manual ...

Code Implementation with LibCompat

Next the follow steps to develop **J2ME** compatible code using the library are explained.

Linking the JAR

- First of all, have to get the correct binary file, wich is named *org.gvsig.compat-mobile.jar* if the **J2ME** code compatibility is preferred, or the binary called *org.gvsig.compat-desktop.jar* to get off the maximum performance to the **J2SE** virtual machine.

- Once have the right binary file to the compatibility needing what is project is developing , it has to be added to the project *CLASSPATH* as a one more dependency.

LibCompatMobile is an unique library but with two different implementations:

1 *org.gvsig.compat-mobile.jar* : Is the optimized component for **gvSIG Mobile**,so that inside **J2ME** are non-existent methods founded or that they have to been optimized to run on it.

2 *org.gvsig.compat-desktop.jar* : Is he optimized component to **gvSIG Desktop**. so that it's optimized using libraries that thy're only into **J2SE** and they don't work correctly into **J2ME** but add performance to **J2SE**.

Instantiating the classes

To use the library, have to import it into the class wich will use any method that the library adds. Both of compilations are instantiated likewise, as the classes and packets hierarchy is the same in both cases, only the implementation is different.

```
...
import org.gvsig.compatible.*;
...
```

Also is possible want import only a few classes instead of all the packet, to avoid memory leaks.

EXAMPLE: Only is needed uses utilities and methods related with the **java.lang.String** that isn't available into **J2ME**

```
...
import org.gvsig.compatible.StringUtil;
...
```

Callings to Available Methods ------------------------------

The library methods are static because of won't have to instantiate the class with objects and will be able to use it as a tools in a more efficient way. Next it's the library method list and an example of how to use them. The next table shows the equivalent method from **libCompatMobile** that substitute a **J2SE** one.

data   2008-09-29
img   2008-09-29
LibDWG   2008-09-29
gvSIG metadata prototype is now available in gvSIG 1.1.x   2008-09-29
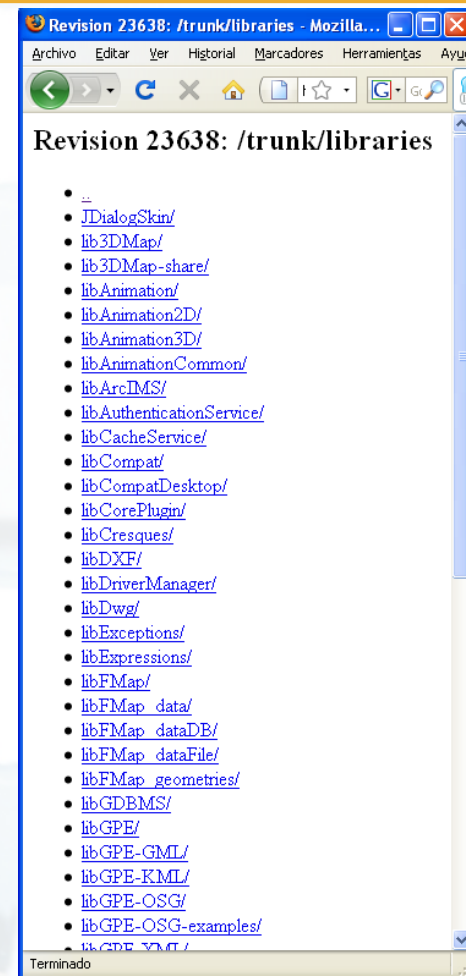Workflow de testing de piloto   2008-09-29
All recent changes...

Terminado   gvsig.org

```
form.wait()
form.hide()
if (form.isModified() & !form.isCancelled)
```

Terminado   gvsig.org

Towards an open organization

- ## Open subversion repository
  - http://subversion.gvsig.org/gvSIG/

Towards an open organization

- ## Open FTP repository for builds, and other stuff
  - ### ftp://gvsig.org

Towards an open organization

- ## Plugin repository for the community
  - https://gvsig.org/web/plugins/downloads

Towards an open organization

- On-line L10N tool: an open gate for new communities of users

Towards an open organization

- ## Mailing lists for the community
  - Provide infrastructure for new users communities
  - Under gvSIG umbrella
  - Self-moderated lists

- ## We look forward an organization

  - Gathering companies, universities & administrations

  - A common space: If everyone contributes, everyone wins

  - Build a quality business model that can be adopted by companies (spec. SME's)

  - Working for technology independence

  - Light structure easy to sustain

  - Looking for collaboration points with other organizations and projects, related to open-source and in the Geo world

- We'd like gvSIG to be seen as a project/organization that
  - Promotes a **framework for business agreements with mutual benefit**.
  - Provides quality seals to new developments.
  - Promotes collaboration & participation.
  - Everyone respecting its principles is wellcome
  - Keeps equal terms among participants

As a final thing

- In an open-source project come together:
  - Technical aspects → Science
  - Commercial aspects → Economics
  - Organizational aspects → Politics
- A whole vision of all those aspects must exist, in order to be able to have a global view, and to be able in any moment to interpret, analyze and take decissions.

gvSIG Status Report

Towards an Open Organization

"Did I perform something useful for the community?
Hence, I got benefit from it"
Marco Aurelio, 180 AC

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